



## **Data collection instruments and procedures for investigating national-level trade in medicinal and aromatic plants - the case of Nepal**

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## 1. Introduction

Trade has the potential to drive the transition to a green economy by promoting sustainable resource use, generating inclusive employment, and contributing to poverty alleviation. However, lack of empirically-based knowledge renders this transition difficult. This situation by the “Transiting to Green Growth: Natural Resources in Nepal” (TGG-N) research-cum-capacity building project: it investigates how the transition to green growth can be undertaken in the medicinal and aromatic plant (MAP) sector in Nepal. The sector involves millions of people and has potential to promote pro-poor employment and earnings as well as sustainable resource use. The project focuses on: (i) identifying, describing and quantifying transnational production networks for MAPs traded in and from Nepal to India and China, and (ii) socially equitable employment potential by identifying points of intervention that enhance inclusive job creation, increase earnings and their redistribution, and promote sustainable resource use. Data is generated through transnational production network actor interviews, from harvesters through traders to end consumers and regulatory bodies, and ecological inventories. The project is developed, implemented, and managed by the University of Copenhagen, the Federation of Community Forestry Users in Nepal, Tribhuvan University and the Agriculture and Forestry University in Nepal, and the Chinese Academy of Sciences in China. Project outcomes will inform the development of policies and strategies for transiting to green growth in natural resource sectors in low income countries. Outputs include international peer-reviewed papers, policy briefs, strengthening Nepalese partners’ human and social capital, and sector-wide stakeholder participation.

To generate knowledge to support the transit to green growth in the commercial MAP sector in Nepal, the project has the specific objectives:

1. To provide improved understanding of the dynamics of transnational production networks for MAPs traded in and from Nepal
  - a. Identify, describe, and quantify MAP transnational production networks from Nepal to India and China, vertically and horizontally
  - b. Assess the sustainability of harvest of selected valuable commercial MAP species
  - c. Determine the factors influencing MAP demand for selected species in final consumption countries (Nepal, India, China)
  - d. Analyse the institutional context of the transnational production networks, with focus on Nepal
  - e. Assess the impact of transnational production network dynamics on rural household incomes in marginalized producer communities in Nepal
2. Build human and social capacity to undertake high quality green growth related research and dissemination at key natural resources institutions in Nepal
  - a. Strengthen human and social capital at Nepalese partners

- b. Establish a Nepalese forum for discussing and identifying feasible points of intervention across MAP related actors and sectors

Project hypotheses are:

1. The livelihoods of the rural poor, including vulnerable groups such as women, can be improved in natural resource-based transnational production networks when transiting to green growth. This is possible through value creation, enhancement and capture processes, and by considering issues related to power and actor embeddedness.
2. Low cost transition pathways to green growth in the MAP sector in Nepal can be identified.

The remainder of this document is concerned with documenting in detail the TGG-N data collection instruments and data collection procedures.



## 2. Overview of the research format

The TGG-N uses a range of quantitative and qualitative data collection techniques, applied in five work packages (WPs) with the following short names and aims:

*WP 1: Transnational Production Networks (TPN).* Identify, describe, and quantify MAP transnational production networks. Data collection includes both vertical (e.g. quantification of volume and registration of prices of major species traded at different nodes in the networks) and horizontal (e.g. how and why producers organize and with what outcomes) elements.

*WP 2: Biophysical.* Assess the sustainability of harvest of selected valuable commercial MAP species.

*WP 3: Consumption.* Determine the factors influencing MAP demand for selected products in final consumption countries (Nepal, India, China).

*WP 4: Political economy.* Analyse the TPN institutional context in Nepal, i.e. how the framework conditions (focusing on legislation, policies, and institutions) in Nepal are developed and changed.

*WP 5: Livelihoods.* Assess the impact of transnational production network dynamics on rural household incomes in marginalized producer communities, as well as on local processes of domestication.

In order to successfully implement these work packages, the following factors are crucial:

- **Completeness.** Two key estimates of trade (one derived from the trader surveys in 15 districts and the other from the central wholesalers) are entirely dependent on locating and interviewing all traders in each of the 15 selected districts and all central wholesalers in Nepal. Much effort should go into locating and finding these actors. The Tibet-border trade survey is also entirely reliant on the identification and interview of exporting traders and harvesters moving goods across the border themselves.
- **Thoroughness.** A lot of qualitative information will be collected; this information is key to understanding the dynamics of trade and interpreting the quantitative data. Hence it is imperative that high quality data collection is undertaken, including having the ability to listen and probe.
- **Timeliness.** Data collection for WP 1 must be undertaken and completed in order for data to feed into WP 3 and be utilized in WPs 4 and 5.
- **Consistency.** Due to the large number of researchers involved, with different backgrounds, efforts must be made to ensure the application of common definitions, methods, coding, data entry and management, and field procedures.

The present report thus constitutes the TGG-N Technical Guidelines, developed to ensure application of agreed-upon methods, definitions, interpretations of questionnaires, as well as procedures for data handling and management.

### 2.1 Data collection instruments and data collection activities

This section gives an overview of the research format. This does not include surveys and data collection efforts that are only part of single PhD sub-project components. Data collection is undertaken using a

string of data collection instruments that are applied in one or more of ten data collection activities. Table 1 below provides an overview of what instruments are used during what activities.

**Table 1:** Relationship between data collection instruments (columns) and data collection activities (rows)

	Harvester survey <sup>1</sup>	Trader survey	Central wholesaler survey	Regional wholesaler survey	Processor survey	Tibet-border survey	MAP invent ories	Pre-consumer survey	Consumer survey	Political ecology	Case studies
District data collection	X	X	X		X						
Central wholesaler collection			X								
Regional wholesaler collection				X							
Processor collection					X						
Tibet-border collection						X					
China survey				X	X				X		
Biophysical studies							X				
Consumption collection								X	X		
Political ecology										X	
Livelihood studies											X

<sup>1</sup> Includes the harvester survey for the district data collection as well as a specialized survey aimed at yarsagumba harvesters.

The 11 main data collections instruments are:

1. Harvester survey (quantitative and qualitative components). To obtain harvester-level information on trade (including harvester profiles, species/product information, qualitative harvester and trade information). Entails interviewing harvesters that are met en route while implementing the 15 district surveys and the Tibet-border trade survey (see below). Expected total n in the district surveys approximately 500-1000 for quantitative information (approx. 50/district for the 15 districts) and n=60 for qualitative interviews (approx. four per district for the 15 districts).

In addition, a specialized harvester survey (with quantitative and qualitative parts) was developed for implementation among yarsagumba harvesters; the purpose of this complementary harvester questionnaire is to enable generation of yarsagumba specific data when spending time with a large number of yarsagumba harvesters, e.g. on average number of pieces collected per day.

2. Trader survey (quantitative and qualitative components). To obtain data to allow national estimate of trade based on amounts purchased directly from harvesters (including trader profiles, product volumes and values, costs to enable net margin calculations, qualitative trader and trade information). Encompasses 15 districts: one each in physiographic zone (high mountains, middle hills, Terai) in each development region (Far-Western, Mid-Western, Western, Central, Eastern). Districts are similar to those covered in a previous 1997-98 survey (introduction found in Bhattarai and Olsen 2000), to enable comparison of findings. After exclusion of districts that had received

prior trade attention (Gorkha, Jumla, Salyan), districts were chosen randomly while not allowing two districts in the same physiographic zone to be adjacent. The districts are listed in Table 2.

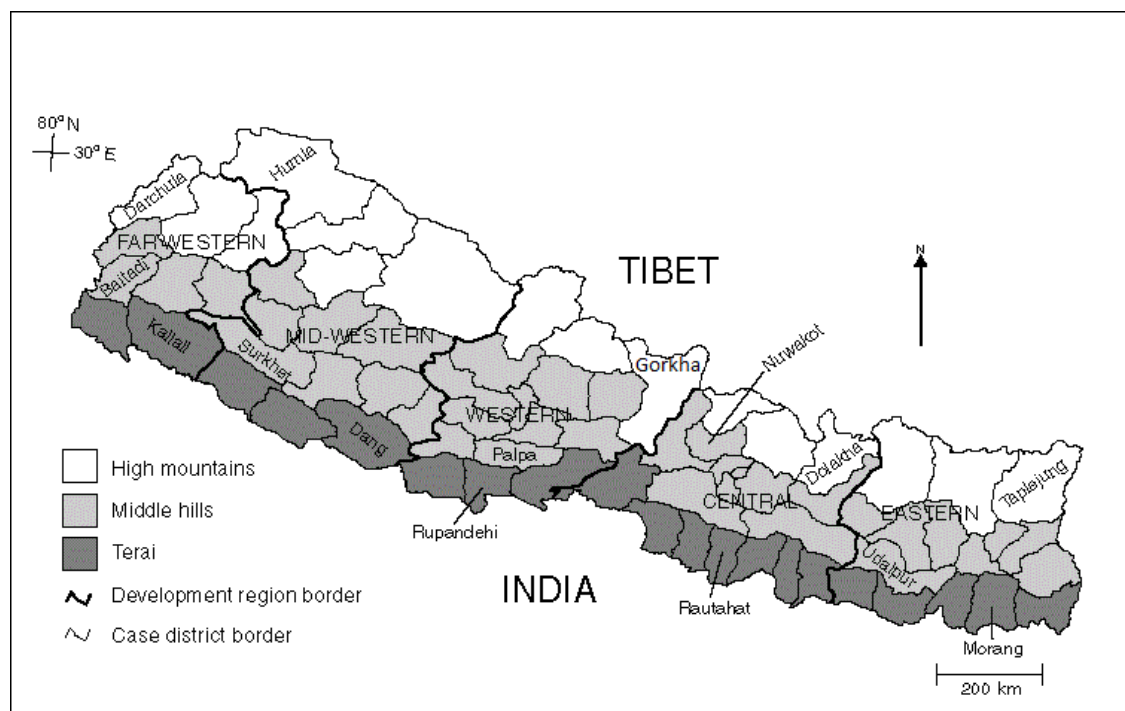
**Table 2:** Distribution of 15 districts included in the trader survey, across physiographic zones and development regions

	High mountains	Middle hills	Terai
Far-Western	Darchula	Baitadi	Kailali
Mid-Western	Humla	Surkhet	Dang
Western	Gorkha <sup>1</sup>	Palpa	Rupandehi
Central	Dolakha	Nuwakot	Rautahat
Eastern	Taplejung	Udayapur	Morang

<sup>1</sup> The 1997-98 found Mustang District not representative of its cell (High mountains in the Western Development Region); hence, in the present survey, this district is replaced by Gorkha District.

An overview of district location is presented in Figure 1.

**Figure 1:** Field work districts, physiographic zones, and development regions



The expected n = 150-200 traders. Uncovering the number and location of traders buying from harvesters in each district is key to this survey. It is important that traders located outside the chosen districts, but purchasing directly from harvesters coming from the district, be identified and interviewed.

3. Central wholesaler survey (quantitative and qualitative components). To obtain data to allow a national estimate of trade based on amounts purchased from traders (including wholesaler profiles, product volumes and values, costs to enable net margin calculations, qualitative wholesaler and trade information). Covers all central wholesalers in the country; expected n =

200. Wholesalers located in the 15 chosen districts are interviewed when going for the trader survey; the rest (the majority) are interviewed on targeted visits.

4. Regional wholesaler survey (quantitative and qualitative components). To obtain product-level price information from India and China, information on who processes final products from key species, as well as information on product origin and qualitative trade information. Different focal species lists required for India and China. Expected n in India approx. 50, ditto for China (noting, however, that there is no existing information on the latter). This survey will also identify processors of the MAP raw material products (kutki and yarsagumba) selected for the subsequent consumer survey
5. Processor survey (quantitative and qualitative components). To obtain quantitative and qualitative trade information from processors located in Nepal. Apparently, the number of processors has rapidly increased in the past decade. Before the main thrust of data collection, processors will be clustered, e.g. according to products or size or technology. Initially all processors found during the 15 district surveys will be interviewed. Expected n = 50.
6. Tibet-border trade survey (quantitative and qualitative components). The purpose is to nationally estimate the volume and value of small-scale cross-border trade to China (Tibet) and to identify the names of the trade towns in Tibet that will form the starting point for the production network investigations there (called the China survey). The data collection instrument is a scaled down version of the trader and harvester survey instruments.
7. MAP inventories. Selection of target species and establishment of plots and procedures for tagging and (re)measurements, with the ultimate aim of estimating sustainable harvest rates for selected species.
8. Pre-consumer survey. The Regional Wholesaler, Central Wholesaler, Processor surveys will generate a number of addresses of companies processing the raw materials selected for investigation in the consumer survey. The pre-consumer survey aims to visit these processors (in India, Nepal, and China) to identify which end products are most important (in terms of use of the selected raw material MAPs); the completed pre-consumer survey will then allow selection of the final consumer products that will be at the core of the subsequent consumer survey.
9. Consumer survey (quantitative). The core will be a quantitative consumer-level data collection instrument. Determinants of medicinal plant usage will be investigated through structured surveys administered face-to-face with randomly selected consumers in Nepal (expected n~500), northern India, and western China.
10. Political ecology interview guides (qualitative). The core will be a string of qualitative actor interviews.
11. Livelihood case studies (quantitative and qualitative components). These are focused on: (i) estimated the total economic importance of commercial MAPs at household level, and (ii) understanding local processes of domestication (why are some species domesticated and others not, what happens in the moment of domestication).

Data collection is structured around 10 distinct data collection activities that may make use of one or more of the above data collection instruments:

1. District data collection. The harvester and trader surveys will be undertaken simultaneously as part of the 15 district data collection effort; this will also include interview of central wholesalers and processors that are located in the districts.
2. Central wholesaler collection. A separate data collection effort to interview all central wholesalers not included through the district data collection (which will likely capture only few central wholesalers).
3. Regional wholesaler collection. This is focused on interviews of wholesalers in India and China; will take place after the above two field activities.
4. Processor collection. A separate data collection effort to interview a sample of processors not included through the district data collection (which will capture only a limited number of processors).
5. Tibet-border collection. This will implement a limited version of the trader and harvester surveys in the 10 districts bordering Tibet (another five having already been captured through the district survey): Rasuwa, Bajhang, Mugu, Dolpa, Manang, Mustang, Solukhumbu, Sankhasawa, Dhading, and Sindhupalchok districts.
6. China survey. Building on preliminary knowledge of products imported from Nepal and current state of knowledge on trade routes from Nepal into Tibet (Appendix 1), this study will follow raw materials from the initial cross-border trading points on the Nepalese border through Tibet to the end destinations in Tibet and Western China. The main instruments will be: (i) an adapted regional wholesaler survey, and (ii) subsequently the consumer survey.
7. Biophysical studies. This independent activity focus on establishing permanent sample plots for monitoring selected species of high commercial interest.
8. Consumption data collection. Using trade data to identify most important products and the processor survey to identify processors of two selected MAP key products, the pre-consumer survey will identify most important final consumer products on which the subsequent consumer interviews will focus (to determine why they consume the selected key consumer products).
9. Political ecology interviews. These will focus on the main actors in the commercial MAP production network in Nepal.
10. Livelihood case studies. One on the economic important of commercial MAPs at high altitude, one on processors on domestication (selecting a case of long standing domestication, and a case of recent on-going domestication).

In addition, the TGG-N will undertake a Retailer survey if possible. This will be done by one or more MSc students in connection to their theses; the purpose is to investigate and understand the nature of periodic markets and to estimate the volume and value of retail sales in such markets.

### 3. Definitions

This section contains definitions of key terms relevant for TGG-N. The purpose is to ensure common understanding of these across components and research groups, and to ensure consistency in data collection, allowing for data to be aggregated, compared, and contrasted. There are many other possible definitions that could be applied, but partners must adhere to those provided below.

#### Harvesting

In TGG-N, we distinguish between MAP products according to their mode of production: (i) products gathered in natural habitats, vs. (ii) products reaped following domestication. Specifically:

- Natural habitats (including forests, meadows, fallows, grassland, wetlands) are managed to a very limited degree and the native vegetation is largely conserved or reconstructed through successional processes (Wiersum 1997). This includes all natural forests (also community forests subjected to silvicultural interventions such as thinning) and alpine meadows in Nepal.
- Domesticated habitats (including plantations, agricultural land, and vegetation between agricultural fields) are subjected to intensive management, such as planting or transplanting. Domesticated MAPs in Nepal include exotics (such as Japanese mint), chiraito (produced on agricultural fields), and soap nut (trees on private land).

#### Household

Use of a common household definition is particularly relevant to the livelihood case studies that include a structured household-level questionnaire. Following PEN (2007), a household is defined as a group of people (normally family members) living under the same roof, and pooling resources (labour and income). Labour pooling means that household members exchange labour time without any payment, e.g., on the farm. Income pooling means that they “eat from the same pot”, although some income may be kept by the household member who earns it. One should also note that it is possible to have household members who are no blood relatives of the family, e.g., a household servant, an in-law, or someone taken into the household because they have been orphaned or otherwise destitute.

#### Income

Income is particularly important in relation to calculating net margins (trade surveys) and total household income (livelihood case studies). Based on PEN (2007), income is generally defined as the value added of labour and capital (including land). The income of a trader is therefore the return to the labour and capital used in income-generating activities (self-employment or business) or sold in a market (e.g., wage labour). We also include transfers in the income definition, e.g., in the form of remittances or pensions.

The following is from PEN (2007): The basic income equation for income from self-employment or business (agriculture, forestry, and any other business) is:

$$I = \sum_{i=1}^n p_i y_i - \sum_{j=1}^m q_j v_j$$

Income (I) is gross value (price times quantities of all  $n$  products) minus the total costs (price times quantities) of all  $m$  purchased inputs (e.g., fertilizers, seeds, tools, hired labour). Maintenance of capital

stock (or depreciations) should also be included, but this will have limited applicability for most households. Note that the costs of family labour should *not* be deducted to obtain household income.

Total household income is the sum of cash income and subsistence income, the latter referring to the value of products being consumed directly by the household or given away to friends and relatives. One should be aware that many respondents may consider income to mean *cash income only*. It is very important that our expanded definition of income (subsistence + cash) be clear to all data collectors, in particular in connection to the livelihood case studies. Note that in WP1, in all the data collection instruments aimed at quantifying the trade in MAPs, we are only interested in cash income.

### **Land tenure**

Ownership of MAP producing habitats is of interest in TGG-N, e.g. in relation to processes of domestication in connection to the livelihood case studies or to document the supply importance of various tenure types for the trade. To keep tenure registrations simple in the data collection, we distinguish only three types of *de jure* (i.e. according to law) tenure: government, community, and private. There will be cases where *de jure* government-ownership, such as for MAPs in alpine meadows, is not *de facto* ownership (i.e. the ownership observed in reality).

### **Commercial medicinal and aromatic plants (MAPs)**

Medicinal plants are plants used for maintaining health and/or treating specific illnesses; they can be used in raw or processed form, alone or with other plants or ingredients, and find use across allopathic and traditional systems in countries across the world. Aromatic plants contain essential oils for use in perfumes, spices, and medicines. The two groups hence overlap and are often treated together, particularly in commercial studies; in Nepal, specifically, medicinal and aromatic plants are grouped and known as *jaributi* (herbs).

Starting from and expanding the Medicinal Plant Specialist Group (2007) definition of commercial medicinal and aromatic plants, we define commercial medicinal and aromatic plants as *plants, fungi, and lichens traded to produce pharmaceuticals, dietary supplement products, natural health products, cosmetics and other personal care products, and culinary products*. We include commercial fungi and lichens alongside plants as these may be traded in the same production networks (this is never the case for medicinal animal products).

In TGG-N, we apply three restrictions to the commercial MAPs included in our data surveys:

1. Commercial MAPs must be native (wild or naturalized) and hence fully or partly subject to wild harvesting. Species in the process of domestication, such as *chiraito* and *satuwa*, are thus included. Exotic species that are solely cultivated, such as lemon grass and Japanese mint, are excluded.
2. In order for a MAP transaction to be included in the databases, there must be a market exchange between a buyer and a seller (typically as private treaty trading where a buyer and a seller negotiate a price after physical inspection of the commercial MAP traded). Hence free distribution of MAPs, e.g. to women's co-operatives or through initiatives to promote the use of plant-based medicines, are not included in the databases.



3. Commercial MAPs must be traded in general multiple-product jaributi production networks. Hence surveys do not include specialized single-product production networks such as those for rudraksha seeds, taxus leaves, gum naval stores (pine resins), or walnut fruits.

#### **District Development Committee (DDC) tax**

As per the Local Self Governance Act, the DDC can collect or waive local taxes, also for forest products and jaributi. For example, the DDC in Darchula imposes and collects a local tax on yarsagumba.

#### **Royalty**

The Ministry of Forest and Soil Conservation (MoFSC) publishes royalty rates for all (in principle) traded products harvested in forests. Traders deposit the royalty amount in the District Forest Office (DFO) or conservation area offices (in some conservation areas, e.g. Kangchenjunga Conservation Area, a local management committee may take over this authority) in the district where MAPs are collected; this is generally done before collection (from government forests). The DFO/Conservation Area Office then issues collection permits based on the royalty amount and as per their five years forestry plan. Hence, in effect, harvesters cannot obtain collection permits individually. After collection, the traders use the royalty slip to obtain the legally required transportation permit (that lasts from three to 21 days) for transport of MAPs out of district of origin (and within Nepal.) Royalty for wild collected MAPs are never waived. Community forest user group can have their own rules but they cannot decrease the amount of royalty that is published by MoFSC.

#### **A typology of actors in the Himalayan MAP trade**

There are a large number of actors involved in the MAP trade in and from the Himalayas and the literature abounds with ill-defined or unexplained terms such as middlemen, intermediaries, or road head traders. To systematize our approach and enable comparison with other studies, we adopt the typology of economic agents in the Himalayan plant trade proposed by Olsen and Bhattarai (2005):

**Harvesters** encompass people who gather medicinal plants for the purpose of selling to traders. *Domesticators* have integrated medicinal plants into agricultural land use patterns, e.g. through active cultivation in smallholder plantations or by planting desired species between fields. *Collectors* gather medicinal plants in the wild, usually in forests or alpine meadows.

**Traders** are those agents involved in purchasing medicinal plants from harvesters: traders concentrate large numbers of small sales into large lots for sale to wholesalers (bulking-up). *Sub-local traders* are based in villages, usually beyond the road network. They are commonly known in the literature as village traders; however, while based in villages, their catchment area (the area from which they buy medicinal plants) usually extends to several Village Development Committees (the smallest local administrative unit). *Local traders*, commonly known as road head traders or district traders in Nepal, are stationed at the interface between portage and road transport (often in district headquarters). Their catchment area usually covers 1-3 districts and they trade much larger amounts than sub-local traders. Traders do not export medicinal plant products.

**Wholesalers** are the agents buying and usually selling by wholesale. The *central wholesalers* mostly buy from traders and sell to regional wholesalers – hence central wholesalers are exporters; they are typically located in the Terai or Kathmandu. They are often called Terai traders in Nepal. The *regional*

*wholesalers* buy from central wholesalers and sell to intermediaries (bulk-breaking), such as producers of traditional medicine, or retailers mainly in India and China; they are positioned in the Indian cities on the Gangetic plain and unknown places in China.

An overview of actors is presented in Table 3 below.

**Table 3:** Typology of economic agents in medicinal plant trade in the Himalayas

<i>Type</i>	<i>Sub-type</i>	<i>Specific type</i>	<i>Key features</i>
Harvester	Collector	Opportunistic	Undertakes collection alongside other activities, e.g. high altitude herders
		Dedicated	Undertakes collection as their specific main activity, e.g. in small groups travelling to remote areas with the main purpose of collecting
	Domesticator	Adaptive	Plants, or transfer natural regeneration, and protects medicinal plant species between agricultural fields. Usually at lower altitudes
		Commercial	Cultivates medicinal plant species on agricultural land in smallholder plantations or in home gardens. Only found at lower altitudes
Trader	Sub-local	Itinerant	Moving from village to village beyond the road network; usually covers many districts. Often focused on selected high value products. Harvesters always actively contacted. Rare
		Permanent	Permanent presence. May or may not receive or distribute advances; harvesters may be contacted actively or passively. May act as broker or commission agent. Common
	Local	Specialist	Located in or near district of origin; average catchment area of 1-3 districts. Trading exclusively in medicinal plants. Rare
		Generalist	Located in or near district of origin; average catchment area of 1-3 districts. Trading a number of items besides medicinal plants. Common
Wholesaler	Central	Specialist	Located in country of origin; average catchment area of 2-6 districts. Trading exclusively in medicinal plants. Rare
		Generalist	Located in country of origin; average catchment area of 2-6 districts. Trading a number of items besides medicinal plants. Common
	Regional	Commission	Located in India or China; national level catchment area. Facilitates fee based sale of central wholesalers' products
		Ordinary	Located in India or China; national level catchment area. Buys products directly from central wholesalers
		Combined	Located in India or China; national level catchment area. Acts as a combination of at least two of: ordinary wholesaler, commission wholesaler, wholesaler vertically integrated with production companies or retailers

Source: Olsen and Bhattarai (2005)

## 4. A detailed guide to the data collection activities

This chapter contains advice on how to implement each of the 11 data collection activities (overview presented in Table 1 above).

### 4.1 District data collection

This provides guidelines on how each of the 15 district surveys should be conducted – the steps below apply to each district survey.

1. Before leaving for the district: (i) obtain an overview of likely trade routes based on literature and geography of the district – the latter may indicate the location of traders; (ii) extract the list of traders, and all their relevant contact information including telephone numbers and physical addresses, from the 1999 Access Database<sup>1</sup> (in which was entered detailed information on each trader) and from the Medicinal & Aromatic Plants Stakeholders Directory 2014 published by JABAN (Jadibuti Association of Nepal); (iii) take contact to FECOFUN District Office and talk to them about their knowledge of MAP trade routes and traders buying MAPs from the district – use this information to up-date the list of traders to be contacted during field work in the district; (iv) also talk to the FECOFUN District Office to obtain information on any MAP processors in the district – use this information to start list of processors to be interviewed; (v) prepare an overview from the Ministry of Forest and Soil Conservation regarding MAP royalty payments in district, for as many years as are available – this will provide a list of known recently traded products; (vi) obtain from the Department of Cottage and Small Industries a list of all registered MAP processing units in the district; (vii) prepare a list of relevant (I)NGOs (those implementing activities of relevance to MAPs) in the district; (viii) extract the list of central wholesalers known to reside in the district (from the national central wholesaler register, see below); and (ix) make sure all hardware is functioning and all batteries fully charged.

Hence, before departing for the district, each data collector should have: (i) a rough map of known and likely trade routes; (ii) a draft list of all traders, including co-operative traders, and their contact information; (iii) a draft list of processors and their contact information; (iv) a draft list of all central wholesalers; (v) a product level overview of levied royalties per year; (vi) a draft list of (I)NGOs that should be visited to obtain recent district-relevant MAP information; (vii) established good rapport with the FECOFUN District Office; and (viii) downloaded the latest versions of all questionnaires on his/her tablet.

This information should be translated into a district-level time schedule showing expected activities per day of field work. Even if this is only indicative, there will be many changes when data collection starts, it is a useful planning tool.

All of the above should be collected and presented in the **pre-departure report** that should be circulated for comments well in advance of the field trip. This will allow integration of pre-existing district-level knowledge as well as peer-review of quality. Comments are then used to prepare the

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<sup>1</sup> This contains information from the previous national-level MAP investigation in Nepal in the 1997-98 case year as described by Bhattarai and Olsen (2000).

final pre-departure report. The Standard Pre-Departure Field Trip Report template is provided in Appendix 7.1.

Each researcher involved in the data collection should maintain a field diary for each district trip. The diary should be used every day to note down your observations and ideas. Bring along a small (max A5 size) notebook and a pencil (gives your text a large degree of immunity to rain :-)) for this purpose. You can also use it for making notes for captions to photos you take on the way. Keep all these field diaries for the duration of the TGG-N project as they may be useful for a number of purposes, including when checking and cleaning the databases.

Upon return from the field, use the diary to draft the Standard Post-Field Report that should be submitted within five days (to Carsten Smith-Hall and Abhoy Das); when data checks have been made (see below chapter on data management) and other comments received the draft Standard Post-Field Report is revised, resubmitted, and finally approved.

2. Go first to the district headquarter. Here you should: (i) conduct the already arranged meeting with the FECOFUN District Office; (ii) conduct the already arranged meeting at the District Forest Office (DFO) to talk to the DFO/Assistant DFO regarding his perceptions of information on MAPs traded from the district as well as their knowledge of traders – the DFO receives royalty payments and will hence have up-dated information (of FY 2014/015) on traders paying royalty and transporting MAPs out of the district; (iii) arrange meeting at the district office for the Department of Cottage and Small Industries to obtain up-dated information on MAP processing units in the district; and (iv) arrange meetings with the relevant (I)NGOs. If local MAP related taxes, on raw products or trade or processing, are levied, then also arrange meeting with the appropriate local administrative body representing the DDC.
3. The basic principle in the district survey, of paramount importance to be able to generate and generalize valid findings, is that **all traders** buying MAPs harvested in the district are identified and interviewed. Hence detailed attention must be paid to this; a full month of field work has been allocated per district (including preparation and travel time). This entails: (i) the above background preparation and the visit to the district headquarter; (ii) subsequent travel beyond the district headquarter to seek out and interview all traders known to buy MAPs from harvesters in the district, regardless of the traders' location (this could mean outside of the study district); (iii) continued attempts at all times to find new traders, including when interviewing harvesters, stopping at tea shops, small-talking during lunch, etc.; and (iv) targeted visits to places where traders are likely to be located, e.g. judging from the geography of a district, even if no prior information is available.
4. The district data collection is thus structured around finding and interviewing traders. But remember to interview harvesters en route. In the trading season, this can be done as harvesters are met while transporting their goods. Outside the season, this should be done by getting together a group of harvesters in villages that are passed or visited as part of the effort to locate and interview the traders. Ask local and sub-local traders to help you locate harvesters. Remember that, when interviewing harvesters, you are interested in the amount of MAP products harvested and traded by the entire household of the respondent, not only by the respondent

him/herself. This means that one has to record all MAP products harvested by the wife/husband and/or children of the respondents as well as what is harvested by the respondent him/herself.

5. We want to categorize all traders using the terminology developed by Olsen and Bhattarai (2005) (see Table 3). This can easily be done: (i) ask the respondent about the size of his/her catchment area (i.e. how many villages or districts he/she buys MAPs from). If the respondent buys MAPs from 1 or more entire districts, he/she is a local trader (alternatively, he/she is a sub-local trader); (ii) if the sub-local trader has a permanent presence in a village (i.e. has a shop), he/she is a permanent sub-local trader (alternatively, he/she is an itinerant sub-local trader); and (iii) if the local trader trades exclusively in MAPs, he/she is a specialist local trader (alternatively, he/she is a generalist local trader).

It will happen that people interviewed will use new terms, such as “agents.” Then ask what they do and find out where they fit into the actor typology – we will not find new kinds of actors (only other words used for existing actors).

6. As the number of processing units per district is likely to be low all of these should also be located and interviewed. This is important for estimating the volume and values of trade from the district as district-based processing units might obtain materials directly from harvesters (i.e. these amounts will not be registered through the trader interviews).
7. Remember to use the list of central wholesalers to locate and interview the central wholesalers located in the district. This will make the later central wholesaler data collection faster and will save scarce field funds.

## 4.2 Central wholesaler data collection

The national number of central wholesalers is probably around 200; all will be interviewed; this will allow a national trade estimate based on amounts and values purchased from traders. Interviews are made up of a quantitative part and a qualitative part. If time doesn't allow, the qualitative part can be dropped (the quantitative part must be completed for all central wholesalers.) The qualitative interviews will also, to some degree, allow checking back with central wholesalers with questions regarding their answers to the quantitative survey.

These steps should be followed in connection to the central wholesaler data collection:

1. Before commencing the central wholesaler data collection: (i) draft a list of the entire population (including a sub-division to Development Regions and to our 15 districts) using the 1999 Access Database and later publications (e.g. the Medicinal & Aromatic Plants Stakeholders Directory 2014 published by JABAN (Jadibuti Association of Nepal)); (ii) check list per Development Region and per district with available and willing wholesalers, including those available in Kathmandu and through the TGG-N Project Advisory Committee; and (iii) draw up a time plan for interviewing the central wholesalers, including what can be done as part of the district survey.
2. Then all central wholesalers are interviewed in three phases: (i) alongside data collection in the district and Tibet border surveys, (ii) independently as part of the central wholesaler survey, e.g.

in Nepalgunj and Kathmandu, and (iii) separate follow-up interviews to include those central wholesalers that were not available for interviews in the first rounds of data collection.

Pre-departure and post-field reports should be prepared using the table of content templates in Appendix 7.

### **4.3 Regional wholesaler data collection**

It is very difficult to estimate the number of the total population. Instead we will interview a sub-set of regional wholesalers located in cities in India (Delhi, Haridwar, Tanakpur, Calkutta, Siligudi/Kakarvita, Lucknow, Gorakpur, and Kanpur) and China (to be determined) that are known to host trade in Nepalese MAPs. Interviews are made up of a quantitative part and a qualitative part; both are applied to all actors in our sample (expected n around 50 in India and 50 in China).

The following steps should be followed in connection to the regional wholesaler data collection:

1. Before commencing the regional wholesaler data collection: (i) draft a list of sub-set of population to be interviewed using the 1999 Access Database, information obtained from central wholesalers, and an internet search; and (ii) and draft a pre-departure report (using template in Appendix 7) including a time plan for interviewing the regional wholesalers in India and China respectively. There is very little information regarding the latter.
2. Then all regional wholesalers are interviewed both quantitatively and qualitatively (including questions that will feed into the pre-consumer survey) using programmed tablets and recorders. They should be approached with a gift, as relevant and appropriate, such as a rudrakshi necklace from Pashupatinath.

### **4.4 Pre-consumer survey**

Before the consumer survey can be designed and implemented, it is necessary to conduct the pre-consumer survey that aims at identifying the most common consumer products produced from the TGG-N prioritized raw materials (kutki and yarsagumba).

Questions that allow identification of processors of the three prioritized raw materials are integrated into the Processor survey. Hence, when this information is up-loaded (using the tablets), the information will be extracted, synthesised, and used to prepare the pre-departure report for the pre-consumer survey.

### **4.5 Processor data collection**

The national number of processors appears to have expanded rapidly in the last few years; there are probably hundreds of processors scattered throughout the country; hence the original intention to interview the entire population was discarded. Instead, we need to develop a typology of MAP processors, e.g. based on end-products, size and sales volume, or use of technology, and then sample within that new framework with a total expected n of approximately 100. This should allow a national overview of processing. This is an essential complement to the central wholesaler survey to derive a second national level estimate of trade (combining export and national demand). Interviews are made up of a quantitative part and a qualitative part.

These steps should be followed in connection to the processor data collection:

1. Before commencing the processor data collection: (i) draft a list of the entire population (including a sub-division to Development Regions and to our 15 districts) using the 1999 Access Database, list of processors registered at the Department of Cottage and Small Industries in Kathmandu, and relevant publications (e.g. the Medicinal & Aromatic Plants Stakeholders Directory 2014 published by JABAN (Jadibuti Association of Nepal)); (ii) check list per Development Region and per district with available and willing processors, including those available in Kathmandu and through the TGG-N Project Advisory Committee; and (iii) draw up a time plan for interviewing the processors.
2. First step in data collection is to include all processors encountered during the district and Tibet border surveys (also needed for making the district-level derived national estimate of annual trade). Then, following completion of the Regional Wholesaler survey, a pre-departure plan should be drawn up to collect the remaining data.
3. Develop a typology of MAP processors; ideally the typology should be generic and thus applicable across at least other Himalayan countries (as opposed to being Nepal specific). This could be along two dimensions, such as product type and size. When the typology is ready, the list of processors should allow an allocation of all known processors to each type, followed by a random selected of 100 processors for interviews. This stratified random sampling should provide us with a representative sample of processors in the country.
4. Then all selected processors (not already interviewed as part of the 15 district surveys) are interviewed quantitatively and qualitatively.

#### 4.6 Tibet-border data collection

The objectives of the Tibet-border trade survey are: (i) to quantify the MAP trade going directly to Tibet from border districts in Nepal, with particular focus on the smaller scale trade from traders and harvesters (the larger scale export is capture through the central wholesaler data collection instrument); and (ii) to qualitatively understand the nature of the smaller scale trade directly from harvesters and traders to Tibet.

As the Tibet-border trade survey is exclusively focused on understanding the Nepal to Tibet trade, all qualitative interviews must be focused on this trade only (i.e. not the south-oriented trade towards Nepal and India). This includes obtaining an understanding of: the number of harvesters selling in Tibet; how this trade is conducted, in particular whether harvesters only bring their own MAPs, bring the MAPs of other persons to sell on their behalf, whether they buy MAPs from others to sell themselves; and whether Chinese buyers come to Nepal to purchase MAPs directly from harvesters (if yes, then what products).

The Tibet-border trade survey encompasses ten districts. This survey is a scaled-down version of the 15 district survey: it only includes trader and harvester interviews (thus excluding processors and central wholesalers) and is only focused on MAP trade going across the border to Tibet (thus excluding all south-oriented MAP trade).

The following provides guidelines on how each of the 10 border district surveys should be conducted – the steps below apply to each district survey:

1. Before leaving for the district: (i) obtain an overview of likely trade routes to Tibet based on literature and geography of the district – the latter may indicate the location of traders; (ii) draft a list of traders, and all their relevant contact information including telephone numbers and physical addresses, from the Medicinal & Aromatic Plants Stakeholders Directory 2014 published by JABAN (Jadibuti Association of Nepal) and other available sources; (iii) take contact to FECOFUN District Office and talk to them about their knowledge of MAP trade routes and traders buying MAPs from the district – use this information to up-date the list of traders to be contacted during field work in the district; (iv) prepare an overview from Ministry of Forest and Soil Conservation regarding MAP royalty payments in district, for as many years as are available – this will provide a list of known recently traded products; (v) prepare a list of relevant (I)NGOs (those implementing activities of relevance to MAPs) in the district; and (vi) make sure all hardware is functioning and all batteries fully charged.

Hence, before departing for the district, you should have: (i) a rough map of known and likely trade routes; (ii) a draft list of all traders and their contact information; (iii) a product level overview of levied royalties per year; (iv) a draft list of (I)NGOs that should be visited to obtain recent district-relevant MAP information; (v) established good rapport with the FECOFUN District Office; and (vi) downloaded the latest versions of the Tibet-border trade survey questionnaires on your tablet.

This information should be translated into a district-level time schedule showing expected activities per day of field work. Even if this is only indicative, there will be many changes once field work starts, it is a useful planning tool.

All of the above should be collected and presented in the **pre-departure report** that should be circulated for comments well in advance of the field trip. This will allow integration of pre-existing district-level knowledge as well as peer-review of quality. Comments are then used to prepare the final pre-departure report. The Standard Pre-Departure Field Trip Report template is provided in Appendix 7.1.

Each researcher involved in the data collection should maintain a field diary for each district trip. The diary should be used every day to note down your observations and ideas. Bring along a small (max A5 size) notebook and a pencil (gives your text a large degree of immunity to rain :-)) for this purpose. You can also use it for making notes for captions to photos you take on the way. Keep all these field diaries for the duration of the TGG-N project as they may be useful for a number of purposes, including when checking and cleaning the databases.

Upon return from the field, use the diary to draft the Standard Post-Field Report that should be submitted within five days (to Carsten Smith-Hall and Abhoy Das); when data checks have been made and other comments received the draft Standard Post-Field Report is revised, resubmitted, and finally approved.



2. Go first to the district headquarter. Here you should: (i) conduct the already arranged meeting with the FECOFUN District Office; (ii) conduct the already arranged meeting at the District Forest Office (DFO) to talk to the DFO/Assistant DFO regarding his perceptions of information on MAPs traded from the district as well as their knowledge of traders – the DFO receives royalty payments and will hence have up-dated information (of FY 2014/015) on traders paying royalty and transporting MAPs out of the district; and (iii) arrange meetings with the relevant (I)NGOs.

Remember that the DFO and others may not be well informed of the Tibet trade (even if they claim to be so). Always find and talk directly to traders and harvesters – the more the better.

3. The basic principle in the border survey, of paramount importance to be able to generate and generalize valid findings, is that **all traders** involved in trade to Tibet are identified and interviewed. Hence detailed attention must be paid to this. This entails: (i) the above background preparation and the visit to the district headquarter; (ii) subsequent travel beyond the district headquarter to seek out and interview all traders believed to trade MAPs to Tibet, regardless of the traders' location; (iii) continued attempts at all times to find new traders, including when interviewing harvesters, stopping at tea shops, small-talking during lunch, etc.; and (iv) targeted visits to places where traders are likely to be located, e.g. judging from the geography of a district, even if no prior information is available.
4. The Tibet-border trader data collection instrument is focused on traders exporting to Tibet in 2071 (2014-15). If these are not numerous, then other traders can be sources of valuable information. In general, regarding traders met as part of the border survey:
  - a. If they traded to Tibet in 2071, do the full quantitative and qualitative interviews.
  - b. If they have previously, before 2071, exported to Tibet but not in 2071: no reason to do the quantitative part of the trader survey. In the qualitative part, we would definitely want to obtain an understanding of why they didn't trade in 2071, such as lower prices in 2071.
  - c. If they have never exported to Tibet then talk to them to obtain an understanding of why not.
5. We want to categorize all traders using the terminology developed by Olsen and Bhattarai (2005) (see Table 3). This can easily be done and for this purpose you need to include MAPs not traded to Tibet: (i) ask the respondent about the size of his/her catchment area (i.e. how many villages or districts he/she buys MAPs from). If the respondent buys MAPs from 1 or more entire districts, he/she is a local trader (alternatively, he/she is a sub-local trader); (ii) if the sub-local trader has a permanent presence in a village (i.e. has a shop), he/she is a permanent sub-local trader (alternatively, he/she is an itinerant sub-local trader); and (iii) if the local trader trades exclusively in MAPs, he/she is a specialist local trader (alternatively, he/she is a generalist local trader).
6. Remember that we also want to find harvesters that have transported MAPs themselves to Tibet. In the trading season, this can be done en route as harvesters are met while transporting their goods. Outside the season, this should be done by getting together a group of harvesters in villages that are passed or visited as part of the effort to locate and interview the traders. Ask local and sub-local traders to help you locate harvesters. Remember that, when interviewing

harvesters, you are interested in the trade to Tibet (including the amount of MAP products harvested and traded by the entire household of the respondent, not only by the respondent him/herself. This means that one has to record all MAP products harvested by the wife/husband and/or children of the respondents as well as what is harvested by the respondent him/herself.)

7. Each harvester interview is done as a group discussion; all participants should be involved in harvesting MAPs that are subsequently traded to Tibet (by harvesters themselves or others). After gathering the participants please ask them to briefly introduce themselves. Remember to explain the 'rules' (open discussion, important that all are contributing) and explain the structure of the questions (i.e. sets of questions that follow the collection and trade processes, winding up with comparison with earlier conditions).

Note the addition of the new questions in Section D of the harvester instrument (D16-18). These questions should only be asked in harvester interviews in VDCs in which passes to Tibet are located.

Remember that the purpose of these interviews is to understand the trade to Tibet, not the southern trade.

## 4.7 China survey

Field work in China – in Tibet and elsewhere – and structured around use of the Regional Wholesaler questionnaire and the end consumer surveys. The above guidelines serve as inspiration for planning this work. In addition, a start-up and planning workshop will be conducted with a university partners institution in Lhasa.

The appendices include Chinese versions of questionnaires applied as part of the field work in China.

## 4.8 Biophysical studies

The following species selection criteria were applied: conservation status, trade value, life form, habitat specificity, parts used, and availability (viable populations).

The following species were selected for biophysical monitoring: *Aconitum spicatum*, *Allium wallichii*, *Dactylorhiza hatagirea*, *Neopicrorhiza scrophulariiflora*, and *Meconopsis napaulensis*. All the species, except *Allium wallichii* and *Meconopsis napaulensis*, are harvested for their underground parts. *M. napaulensis* is harvested for its flowers and seeds and *A. wallichii* is harvested for its leaves. None of the species are included in the IUCN red list. However, regional threat assessment (based on CAMP) listed *D. hatagirea* as endangered and *N. scrophulariiflora* as vulnerable (Bhattarai *et al.* 2002). *M. napaulensis* is a narrow endemic species, distribution of which is restricted within Langtang National Park (LNP), central Nepal.

Permission for field work was obtained from Department of National Park and Wildlife Conservation (DNPWC), Government of Nepal and respective national park/protected area offices. For the first three species, sampling was carried out in summer of 2015 in three populations each along an elevation gradient ranging from 3000 to 4200 m (for *A. spicatum* and *A. wallichii*) in Annapurna Conservation Area (ACA), central Nepal and from 3400 to 4600 m (for *D. hatagirea*) in Bhimthang valley in Manang, Central Nepal and Chamelia valley in Api-Nampa Conservation Area (ANCA), far-west Nepal. For *N. scrophulariiflora*,

sampling was carried out covering eight populations, four in Langtang National Park (LNP), central Nepal and four in ANCA, covering an elevation gradient ranging from 3500 to 4800 m. *M. napaulensis* was studied selecting seven populations distributed within an elevation range of 3500–4700 m in LNP.

This section focuses on two aspects of biophysical studies: the first is related to the distribution patterns, habitat relationships, and assessment of the variation in population size and structure; and the second is related to population dynamics.

### **Distribution patterns, habitat relationships, and variation in population size and structure**

We applied stratified sampling to study the distribution pattern, habitat relationships, and variation in population size and structure of selected species. In each population, sampling was made representative by covering lowest to highest elevation range of target species. In each 50–100 m (depending on species and spatial distribution) elevation band of such population, sampling plots ( $n = 3$ –6, depending on species abundance and spatial distribution) of 3 m × 3 m size were laid down at a minimum distance of 5–10 m. Each plot was divided into nine sub-plots of 1 m × 1 m, of which four (for *D. hatagirea*) to five (for *A. spicatum*, *A. wallichii* and *N. scrophulariiflora*) subplots were systematically selected for detailed biophysical data collection. Total number of plots sampled per population ranged from 12 (*N. scrophulariiflora*) to 24 (*D. hatagirea*, *A. spicatum*, and *A. wallichii*). As *M. napaulensis* exhibited highly patchy distribution, it was sampled subjectively selecting larger patches. In this case, sampling plots of 10 × 10 m size were established, from 3–5 per population. Each plot was further divided into four 5 × 5 m subplots, all of which were considered for data collection. In each subplot, thus selected, individuals classified into different stages of target species were counted. Classification of stage classes was based on Ghimire *et al.* (2005). In addition, important plant functional/adaptive traits (including plant size, leaf number, reproductive outputs – number and size of flowers, fruits and seeds) were recorded selecting matured individuals ( $n = 3$ –30, depending on size of target species) in each population/patch. Above and below ground plant biomass was studied by harvesting matured individuals ( $n = 3$ –30, depending on size of target species) in each population/patch (detail for each species is given below). Fresh mass of selected plant parts was taken in the field. Plant parts were air dried and packed in paper bags until laboratory analysis. Other biophysical variables were recorded both at the plot (GPS coordinates and elevation) and subplot (slope, aspect, soil pH, soil moisture, depth of soil and litter, and coverage of vascular and non-vascular plants) level. Anthropogenic disturbance (grazing, trampling, harvesting, animal droppings, and fire) was recorded in each subplot on a categorical scale of 0 (lowest) to 4 (highest). Population density of target species (individually for each stage class) was modelled with Zero Inflated Poisson (ZIP) regression to estimate the impact of different environmental factors.

### **Population dynamics**

The following provides species-wise details on sampling design and harvest simulations to study population dynamics:

#### *Dactylorhiza hatagirea*

Three plots of 20 × 20 m were established in 2015 in each of the following populations: Thadapani (3400 masl), Nwagidanda (3700 masl), and Kalidhunga (3900 masl) in ANCA; and Bhimthang (3600 masl), Ponker lake (4100 masl), and Salpodanda Glacier (4600 masl) in Manang. Each plot was subdivided into four subplots of 10 × 10 m. All the individuals were marked with aluminium tags and biological traits (plant size,

leaf number, and reproductive output) were recorded in 2015. The tagged individuals were monitored in 2016 and 2017 in terms of survival and mortality, and all the biological details were also recorded. No harvesting treatment was applied for this species considering its conservation status and government protection.

#### *Aconitum spicatum*

Three transects of 18 x 2 m were established in each of the following populations: Deurali (3200 masl), Bagar (3600 masl), and Tonglyo (3800 masl) in the Annapurna Base Camp region of ACA. Each transect was divided into nine subplots of 2 x 2 m. In each transect, five alternate subplots were systematically subjected to harvest simulation. The harvest simulations applied in the study included control (no harvest), 25%, 50%, 75%, and 100% of all plants harvested. All individuals were marked with aluminium tags and all biological traits recorded. The tagged individuals were monitored in 2016 and 2017 in terms of survival and mortality, and all biological details were also recorded. The tagged individuals will be monitored in 2018.

#### *Allium wallichii*

Like *A. spicatum*, we followed the same procedure for monitoring *A. wallichii* populations. However, plot size for this species was fixed at 3 m x 3 m due to its relatively localized distribution. Each plot was divided into nine subplots of 1 x 1 m, of which five were systematically selected for harvest simulations as above. Reproductive outputs were calculated from the fruits collected from 15 matured individuals from each population during the fruit maturation period.

To determine seed germination and seedling recruitment for the three species mentioned above, we introduced 100 viable seeds into each of five 1 m x 1 m subplots in each population. The sites were selected in such a way that they resembled the habitat and had less chance of receiving seeds from nearby populations. To determine the fate of tubers in *Dactylorhiza* and *Aconitum*, we transplanted 10 tubers in each of the five subplots in each population. Tuber recruitment was monitored in 2016 and 2017, based on which recruitment rate was calculated.

#### *Neopicrorhiza scrophulariiflora*

Three permanent monitoring plots of 3 m x 3 m size were established per population in both the study sites (ANCA and LNP). Permanent plots were established selectively in areas with high density of target species. Each plot was divided into nine subplots (1 m x 1 m), of which five were systematically selected for recording demographic data. *N. scrophulariiflora* is a clonal perennial herb, which produces successive modules (vegetative off shoots), known as ramets. Genetic individuals (genets) are hard to distinguish in the field due to its 'guerrilla' strategy of clonal growth (Ghimire *et al.* 2005). Therefore, our study focused on ramet-level demographic properties/processes. In each subplot, ramets were recorded at different growth stages (seedling, juvenile, non-flowering adult, and adult-reproductive; based on plant state and leaf number). The plots were subjected to harvest by simulating local practices. Prior to the field data collection, local MAP harvesters were asked to apply harvest treatment. Among the five subplots selected in each plot, one subplot was designated as control (no harvest) and the rests were assigned harvesting treatments by removing 25, 50, 75, and 100% of ramets. Each ramet left after the treatments in all subplots (except those subjected to 100% harvesting) was marked with aluminium tag and its stage was recorded. The subplots were also properly marked with boundaries. Local harvesters were requested not to harvest the remaining plants at least during our study period (2015 to 2018). During harvesting season, local harvesters were asked to select most vigorous (preferred harvestable size) ramets outside the sampling

plots, of which at least 30 ramets in each population were randomly harvested for biomass estimation. In addition, 5-10 flowering ramets were collected randomly outside the permanent plots, stored in alcoholic preservatives and brought to the laboratory for morphological study. *In situ* germination experiment was conducted to estimate fecundity. In this process, known numbers of seeds from 10 matured fruits, collected outside the sampling plots in each population, were sown in triplicate plots of 1 m x 1 m size. The germination plots were established in areas where the target species was completely absent.

#### *Meconopsis napaulensis*

Three to five permanent monitoring plots of 10 m × 10 m size were established per population in LNP. Permanent plots were established selectively in larger patches of target species with high plant density. Each plot was divided into four 5 m × 5 m subplots and all the subplots were considered for recording demographic data. In each subplot, individuals grouped into different growth stages (identified based on leaf number, rosette size, and reproductive maturity) were tagged and recorded. No harvesting treatment was applied. During the peak-growing season, three samples of matured flowering individuals were completely uprooted from each patch outside the permanent plots to measure above and below ground biomass. Flower samples (3-5 flowers per plant outside the sampling plot) were collected and preserved in alcoholic preservatives for laboratory analysis of pollen viability and floral morphology. At late growing season, 5-10 reproductive individuals were randomly selected in each population outside the permanent plots and five healthy and completely ripened fruits per plant were collected and the numbers of seeds per fruit were determined. *In-situ* germination of mature seeds ( $n = 100$ ) were studied in well-prepared seedbeds at an identical habitat located far apart from the original population. The *in situ* seed germination experiment was repeated in three beds of 1 × 1 m and germination capacity and establishment record was used to determine fecundity.

#### **Data analysis**

The annual transitions of different stages will be modelled with stage-based matrix population model or integral projection model (IPM) in R software to make population projections and assess the sustainability of harvest of selected MAP species. Survival and fecundity data will be used to build model for conditions corresponding to the intensity of harvesting, year of harvesting and 1, 2, and 3 years post-harvesting (Caswell 2001; Ghimire *et al.* 2008). The annual population growth rates, elasticities, and sensitivities will be estimated in each of these conditions. The population model will be used to examine the interaction between harvesting regimes and management conditions that would affect the population dynamics of the concerned species.

### **4.9 Consumption data collection**

The following provides the example of investigating yarsagumba in China. With increasing middleclass and economic booming, the consumption of yarsagumba has increasing dramatically in China in the last 10 years. Despite increasing consumption, little is known about the consumer behaviour, e.g., how people understand the medicinal function of yarsagumba, who are the main consumers, what are their incentives to consume yarsagumba.

The survey is designed for a first attempt at understanding consumer behaviour. As there appears to be a large differences between mega-cities and more resource-near cities, the survey targeted for six cities:

1. Mega-cities represented by Beijing, Shanghai, and Guangzhou.
2. Close-to-resource cities represented by Lhasa, Kunming, and Sichuan.

As for the sampling, 60 individual interviews were conducted for each of those six cities (total n=360). Interviewees were selected using snowball sampling.

#### **4.10 Political ecology**

These data collection instruments were not available for publication at the time of writing; they can be requested by contacting the first author of this report.

#### **4.11 Livelihood studies**

The methods descriptions are available in detail in: (i) Timmerman (2015) as regards investigation of the economic importance of commercial MAPs to high altitude rural household incomes, and (ii) Vogel (2017) as regards the processes of domestication. Both theses can be accessed through the University of Copenhagen, Faculty of Science library.

## 5. General guidelines on field work

This chapter contains advice on how the quantitative and qualitative field work should be conducted. First, a general list of important points to consider when collecting data:

1. When collecting district-level data, make sure that you choose a local assistant who is as “neutral” as possible and do not have any stake in MAP trade (e.g., avoid employing someone from the District Forest Office (DFO) or a MAP trader).
2. Remember to introduce the TGG-N project properly to all respondents, e.g., who you/we are, our framework, the purpose of the project, the way you have identified them as respondents. It is also a good idea to inform the respondents about the structure/sequence of the interview and the approximate duration.
3. Remember to inform respondents that information collected will be anonymized in all reports and publications. We are only collecting name and address information to be able to contact the respondents in the future (e.g., for follow-up).
4. Remember to ask for respondents’ consent to participate in the interview (and to be recorded).
5. It is crucial to achieve and maintain good rapport with the respondents. Start-off with some “small talk” on MAP trade, your experience in the district, etc.
6. Smile and be friendly.
7. Always choose a quiet and private location to perform interviews. Some of the questions can be sensitive (e.g., price information and rent-seeking) and the only way to collect reliable data is to ensure that no one else is listening.

### 5.1 Quantitative data collection

Based on experience gained during field testing, it is recommendable to start the interview with quantitative data collection; this ensures that the interviewer gains knowledge about the MAP products harvested/traded/processed, the main suppliers and buyers, etc., before collecting the qualitative data.

When collecting quantitative data, remember to:

1. Bring a notebook and pen. Respondents do not always answer questions in the order which we have planned; record the relevant information when it is mentioned to avoid unnecessary repetitions which consume precious time and contribute to respondent fatigue. Remember also to note down all the MAP products harvested/traded in 2071 at the beginning of the interview.
2. Bring a calculator (or download an app on your tablet) to assist respondents in estimating some of the volume or cost information.
3. As much as possible, help the respondents to give precise estimates. For example, if the respondent does not know how much he/she spent on transport in 2071, ask how much he/she spent per truck, and then how many trucks he/she paid for, etc. When the respondent does not know an answer, ask him/her to estimate it to the best of his/her ability. All questions need to be answered; write a comment at the end of the questionnaire if some of the data collected is considered unreliable.

4. Feel free to reformulate the questions in your own words (but make sure that you keep the same meaning). You do not have to read the questions from the tablet! Translate all questions to Nepali and do not use any English terms (e.g. MAP is not a term understood by respondents; use *jadibuti*).

## 5.2 Qualitative data collection

Based on experience gained during field testing, it is recommendable to collect qualitative data after the quantitative data has been collected. This ensures a more informed discussion between the respondent and interviewer during the qualitative questioning.

At the start of each sub-section (e.g. “Getting started”, “Buying”, etc.), mention the name of the sub-section (in English). This will ease later data analysis.

When collecting qualitative data, remember to:

1. Stimulate conversation: listen carefully to what is being said, probe, nudge, ask for clarifications, sum up what is being said to make sure that you understand the answers correctly.
2. Accept reflective silence. Sometimes, the respondents need some time to answer.
3. Be ready to re-state or elaborate questions if necessary. Make sure that the respondent understands the questions correctly.
4. Use non-verbal techniques (e.g. nodding) and make the respondent feel like the information he/she is giving is interesting and valuable.
5. Avoid sensitive issues in early phases of the interview and move on if necessary. You can always come back to the most difficult questions at the end of the interview.
6. Provide ‘space’ for questions from the respondent at the end of the interview.

Moreover, the following points are important to consider when conducting focus group discussions:

1. At the onset of the discussion, make sure that all participants are introduced to each other.
2. The key role of the interviewer (moderator) is to facilitate interactions between participants, to sum up what is being said and to ensure progress in the discussion.
3. Be aware of misinterpretation of consensus; make sure that all voices (and not only “powerful voices”) are heard.
4. Ensure that the traders or DFO staffs do not take part in the focus group discussions with harvesters.
5. Provide incentives as agreed with FECOFUN (e.g. cash, kind, snacks, etc.).



## 6. Data management: handling and checking

This chapter provides an overview of data management issues, from data recording to storing and checking. Handling covers the processes from generation of data till it is stored in the relevant TGG-N database; checking covers the quality assurance mechanisms applied to quantitative and qualitative data.

### 6.1 Data handling

The basic data handling principles in TGG-N is that: (i) quantitative data should be collected using tablets programmed specifically for this purpose, and (ii) qualitative data should be recorded, transcribed, and translated. All recording of quantitative data on sheets of paper should be avoided in order to minimise errors, save the substantial costs of data entry, and allow quick and early data quality control checks. All recording of qualitative data solely in notebooks should be avoided to minimise inaccuracies and, again, allow quick and early data quality control checks.

#### 6.1.1 Quantitative data handling

All data collectors use sturdy tablets able to withstand the hardship of field work under difficult conditions. All data collectors are assigned their own unique interview numbers. Guidelines for using tablets to record data are provided in detail in Appendices 5 and 6.

#### 6.1.2 Qualitative data handling

All data collectors use tape recorders to record interviews. These mp3 files are up-loaded to the appropriate folder in the TGG-N Dropbox for safe storage and back-up.

The process for making recorded interviews available as text files are:

1. Each translator is tested and quality checked by: (i) transcribing interviews for an entire district (one of the 15 districts), (ii) translating the entire district interviews into English, and (iii) check of the completeness and quality of translations by the relevant district data collectors. If approved, then future translations are done per district directly into English.
2. All translations are put on a standard format. This is also essential to facilitate subsequent data analysis and paper writing. Therefore, each of the translated qualitative interview district files (ideally one per district) is structured: (i) to start with an overview of translated interviews for the district in a table (including for each interview: date, ID, actor category, respondent name, address, district, interview type (quantitative, qualitative)), and (ii) each interview starts with a standardized heading (actor type, name, ID no).
3. This structural check is made for Far-Western and Mid-Western districts (6) by Dipesh Pyakurel and for other districts (9) by Arjun Chapagain.
4. As subsequent analysis (e.g. using Nvivo) and searching is entirely dependent on the correct use of terminology, the structural check will also include:
  - Spelling mistakes
  - Ensuring correct usage of actor terminology (as per Olsen and Bhattarai 2005)

- Ensuring consistent and correct use of the sub-headings from the relevant qualitative interview form (e.g. for harvesters: Getting involved, Harvesting, Handling, Selling, Permits and rent-seeking, Changes and prospects) – again, this is needed to facilitate subsequent qualitative analysis in Nvivo and for any other standardized searching.
5. Once the structural checks have been completed for an entire district file, a file called “District\_formatted\_initials” (e.g. Surkhet\_formatted\_DP) is created and up-loaded in the relevant translation folder in the Dropbox.
  6. These files are then used for content quality assurance (see below).

## 6.2 Data checking

The basic data quality assurance principle in TGG-N is that all data must be checked and approved by senior scientific staff. This applies to both quantitative and qualitative data. In order to make data checking and approval transparent, the status is provided in the Data Control Matrices. This section describes the data quality assurance mechanisms applied and provides the form of the Data Control Matrices (they are updated in a separate document).

As an example, below is the Data Control Matrix for the 15 district survey:

**Table 4:** Data status for the 15 district survey

District	Responsible for data collection	Pre-dep report	Draft field report	Final field report <sup>1</sup>	Quant data uploaded <sup>2</sup>	Quant data checked and cleaned <sup>3</sup>	Qual data checked <sup>4</sup>	Qual data translated <sup>5</sup>	Qual data format check <sup>6</sup>	Qual data content check <sup>7</sup>	All data approved
Dang	DP, AC, KN										
Humla	DP, PB										
Surkhet	DP										
Baitadi	DP										
Darchula	DP										
Kailali	DP										
Palpa	AC, KN										
Morang	AC										
Taplejung	AC										
Rupandehi	AC										
Dolakha	AC										
Udaipur	KN										
Rautahat	KN										
Nuwakot	KN										
Gorkha	KN										

<sup>1</sup> Marked when draft field reported has been checked, revised, and approved.

<sup>2</sup> Marked when district row in Table 5 is complete and without errors (for each type of actor: same number of interviews in the post-field report and up-loaded).

<sup>3</sup> Marked when systematic database checks has been completed in Stata for outliers (price range, volumes) and missing products, and discrepancies corrected.

<sup>4</sup> Marked when district row in Table 6 is complete and without errors (for each type of actor: same number of interviews in the post-field report, up-loaded, and translated.)

<sup>5</sup> Marked when all interviews for a district are available in a single file in the Dropbox.

<sup>6</sup> Marked when single translated file has been checked by the data collector. This format checking must ensure that each file must (i) start with overview of translated interviews in a table (including for each interview: date, ID, actor category, respondent name, address, district, interview type (quantitative, qualitative)), (ii) each interview must start with a standardized heading (actor type,

name, ID no), and (iii) contain the sub-headings from the qualitative interview form (e.g. “getting started”) – this is needed to facilitate subsequent qualitative analysis in Nvivo.

<sup>7</sup> Marked when checked single translated file has been approved by reader (senior researcher). To be approved each file must follow the format specified above, and the text should be understandable to the reader (no serious language issues.)

### 6.2.1 Quantitative data checking

This is done per database. The standard procedure is:

1. Data is downloaded as per Appendix 6 and imported into Stata – all checks are performed in Stata.
2. Each database is then checked variable by variable. Checks performed per variable are noted down (e.g. that the ratio between highest and most common price is between 1 and 3) as are actions undertaken (such as merger for trade names that cover the same species) and explanations of outliers.
3. Each database is then discussed, based on the bug report generated in step 2, changed and finalized by a team of data collectors and senior scientific staff.
4. The checked and cleaned database is then ready for use.

As an example of the Data Control Matrix for quantitative data, below is a table controlling for numbers of quantitative interviews:

**Table 5:** Data status for the 15 district survey – quantitative interviews (no. of up-loaded interviews vs no. of interviews mentioned in the post-field reports)

District	Responsible	Harvesters		Traders		Central wh salers		Processors	
		Post-field no.	Up-loaded no.	Post-field no.	Up-loaded no.	Post-field no.	Up-loaded no.	Post-field no.	Up-loaded no.
Dang	DP, AC, KN								
Humla	DP, PB								
Surkhet	DP								
Baitadi	DP								
Darchula	DP								
Kailali	DP								
Palpa	AC, KN								
Morang	AC								
Taplejung	AC								
Rupandehi	AC								
Dolakha	AC								
Udaipur	KN								
Rautahat	KN								
Nuwakot	KN								
Gorkha	KN								
Total no.									

### 6.2.2 Qualitative data checking

Once the translations are standardised and format checked (as described above) each translation is checked by senior scientific staff with emphasis on language and content. When a file has been approved, it is released for data analysis use.

As an example of the Data Control Matrix for quantitative data, below is a table controlling for numbers of qualitative interviews:

**Table 6:** Data status for the 15 district survey – qualitative interviews (comparing no. of interviews mentioned in the post-field reports, up-loaded, and translated)

District	Who	Harvesters (FGD)			Traders			Central wh salers			Processors		
		Post-field no.	Up-loaded no.	Transl no. <sup>1</sup>	Post-field no.	Up-loaded no.	Transl no.	Post-field no.	Up-loaded no.	Transl no.	Post-field no.	Up-loaded no.	Transl no.
Dang	DP, AC, KN												
Humla	DP, PB												
Surkhet	DP												
Baitadi	DP												
Darchula	DP												
Kailali	DP												
Palpa	AC, KN												
Morang	AC												
Taplejung	AC												
Rupandehi	AC												
Dolakha	AC												
Udaipur	KN												
Rautahat	KN												
Nuwakot	KN												
Gorkha	KN												
Total no.													

<sup>1</sup> The number of translated interviews (per actor) in the district's single file translation.

## 7. Time schedule

The April 2015 earthquake happened just before the first district level survey (that was planned to take place in Gorkha District!); field work was further delayed due to the border closure and disruptions following the adoption of the new constitution. Hence, the original data collection plan (as included in earlier versions of these Guidelines) had to be substantially revised. Tables 7a-7c provide an overview of the revised time schedule.

By March 2015, project partners had completed drafts of the five WP1 data collection instruments: Harvester survey, Trader survey, Central wholesaler survey, Regional wholesaler survey, and Processor survey. This was followed by the Tibet-border trade survey in April 2015. In spring 2015, tablets were purchased and programmed for direct entry of data in the field. This required substantial programming and setting up of questionnaires on tablets in Copenhagen. Field testing took place in April 2015, including testing the tablet data entry format and up-loading. Following the 25 April 2015 earthquake, data collection for the district surveys commenced in June 2015 and were completed in ultimo April 2016. This was followed by the central wholesaler survey from May to July 2016; the regional wholesaler survey in August and September 2016; and subsequently the remaining parts of the processor survey (otherwise conducted alongside district surveys and in Kathmandu). Livelihood case studies took place in summer 2015 and spring 2017. Consumer surveys took place in autumn 2017 and 2018 as did the political ecology work package. Tables 7a-7c provides a general overview of timing of each major component in each work package (WP) for 2015-17.

**Table 7a:** General overview of TGG-N field work implementation per work package, 2015

2015	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<i>WP1 / TPN</i>												
Hire RA1 + RA2												
Development of data collection instruments												
Training in WP1 data collection in CPH												
Test of data collection instruments												
Programming tablets												
<i>Earthquake and constitution delays</i>												
District survey x 15												
Tibet-border district survey x 10												
Central wholesaler survey (as part of districts)												
Processor survey (as part of districts)												
<i>WP2 / Biophysical</i>												
Species selection												
Location selection												
First round of measurements												
<i>WP5 / Livelihoods</i>												
High altitude incomes												

**Table 7b:** General overview of TGG-N field work implementation per work package, 2016

2016	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<i>WP1 / TPN</i>												
District survey x 15												
Central wholesaler survey (as part of districts)												
Processor survey (as part of districts)												
Tibet-border district survey x 10												
Central wholesaler survey												
Processor survey												
Regional wholesaler survey												
China survey												
<i>WP2 / Biophysical</i>												
Second round of measurements												
<i>WP3 / Consumer survey</i>												
Pre-consumer survey												
Consumer survey design												

**Table 7c:** General overview of TGG-N field work implementation per work package, 2017

2017	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<i>WP2 / Biophysical</i>												
Third round of measurements												
<i>WP3 / Consumer survey</i>												
Consumer survey Nepal												
Consumer survey India												
Consumer survey China												
<i>WP4 / Political ecology</i>												
Actor interviews												
<i>WP5 / Livelihoods</i>												
Middle altitude domestication case												

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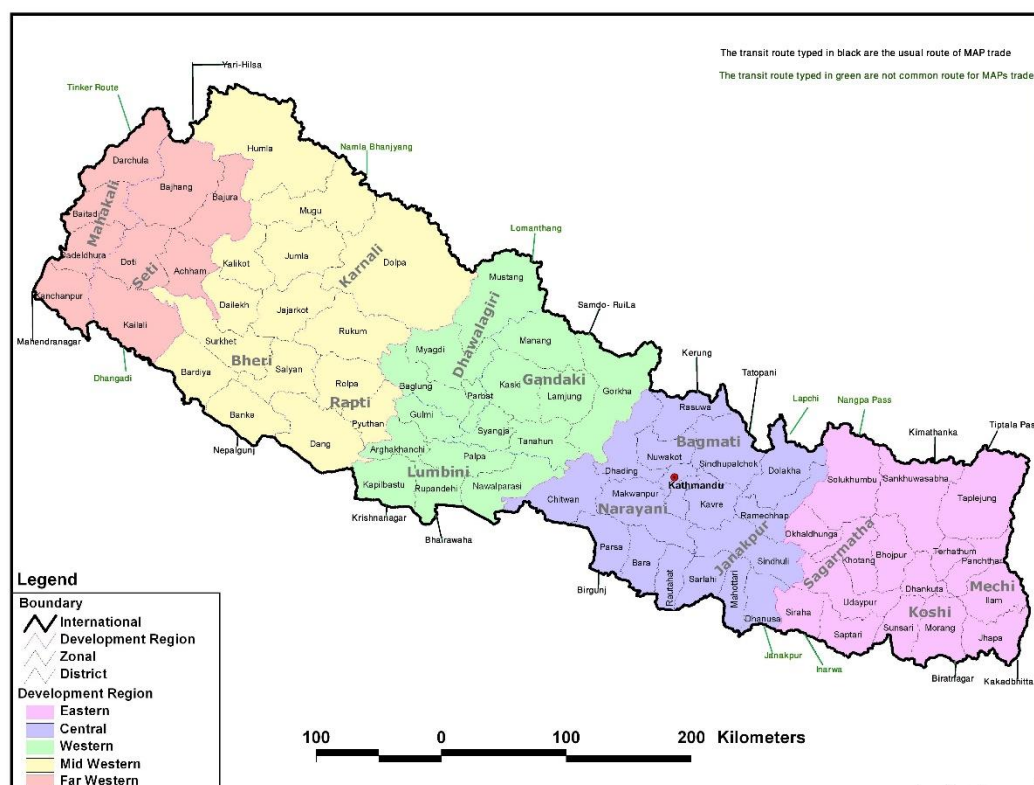
## Appendix 1: Map overview of known trade routes from Nepal to Tibet

Nepal shares more than 1400 km of border with China, passable only through high altitude passes above 4000m (with a few exceptions such as the border points at Tatopani and Rasuwagadi-kerung).

GoN/MoF/Dept of Customs maintains nine custom offices on the Nepal-China border:

1. Yarinaka (Humla) to Hilsa
2. Mugu (Mugu)
3. Mustang (Mustang)
4. Larke Samdo (Gorkha) to Ruila
5. Rasuwa (Rasuwa) to Kerung\*
6. Tatopani (Sindhupalchowk) to Zhagmu
7. Lamabagar (Dolakha)
8. Kimathanka (Sankhuwasabha) to Rio
9. Walangchunggola (Taplejung) to Rio

But there are many more trade routes from Nepal to Tibet, used by local inhabitants involved in small scale trans-border trade; some of these routes support trade in commercial medicinal and aromatic plants between Nepal and Tibet and are described (from west to east) and discussed below. The notes are derived from personal observations through earlier field work in these areas (by Dipesh Pyakurel).



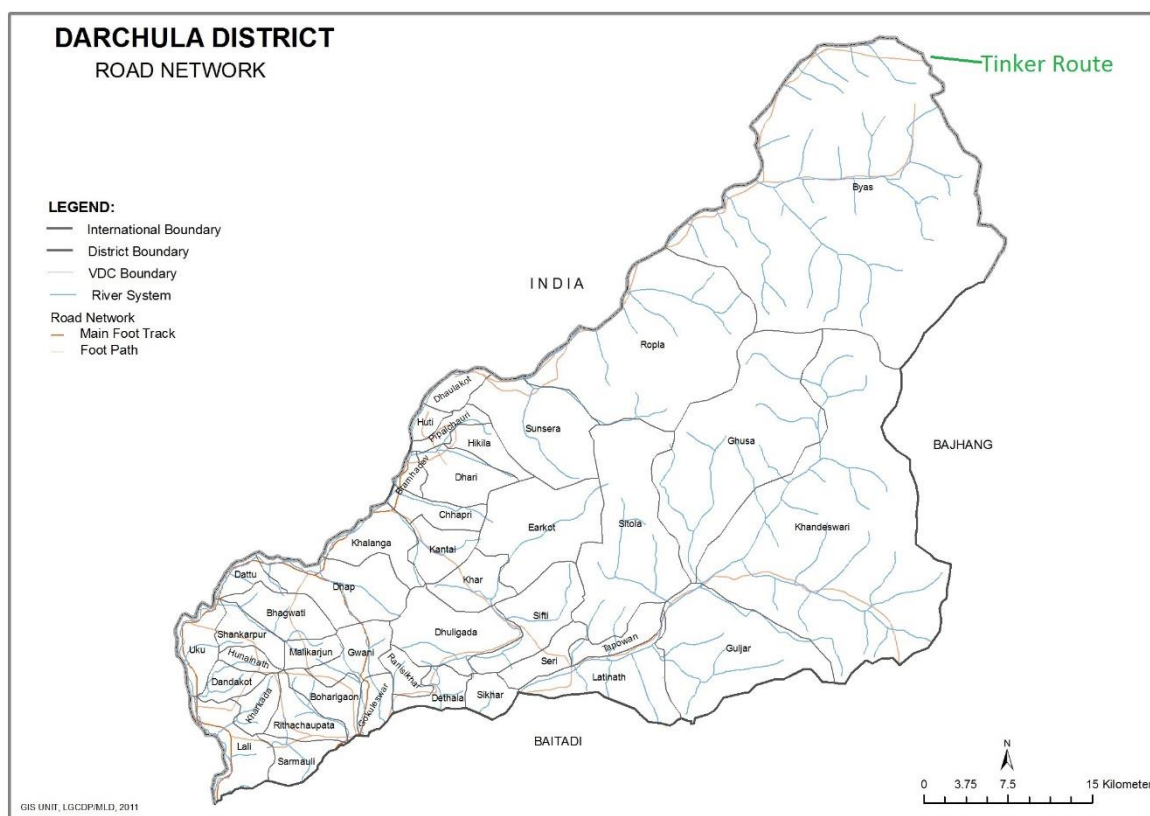
Map indicating the location of border points between Nepal and Tibet



### ***Tinker Route (Darchula)***

Category: Non-vibrant trade route  
Custom office: Absent  
Next Tibet market: Taklakot

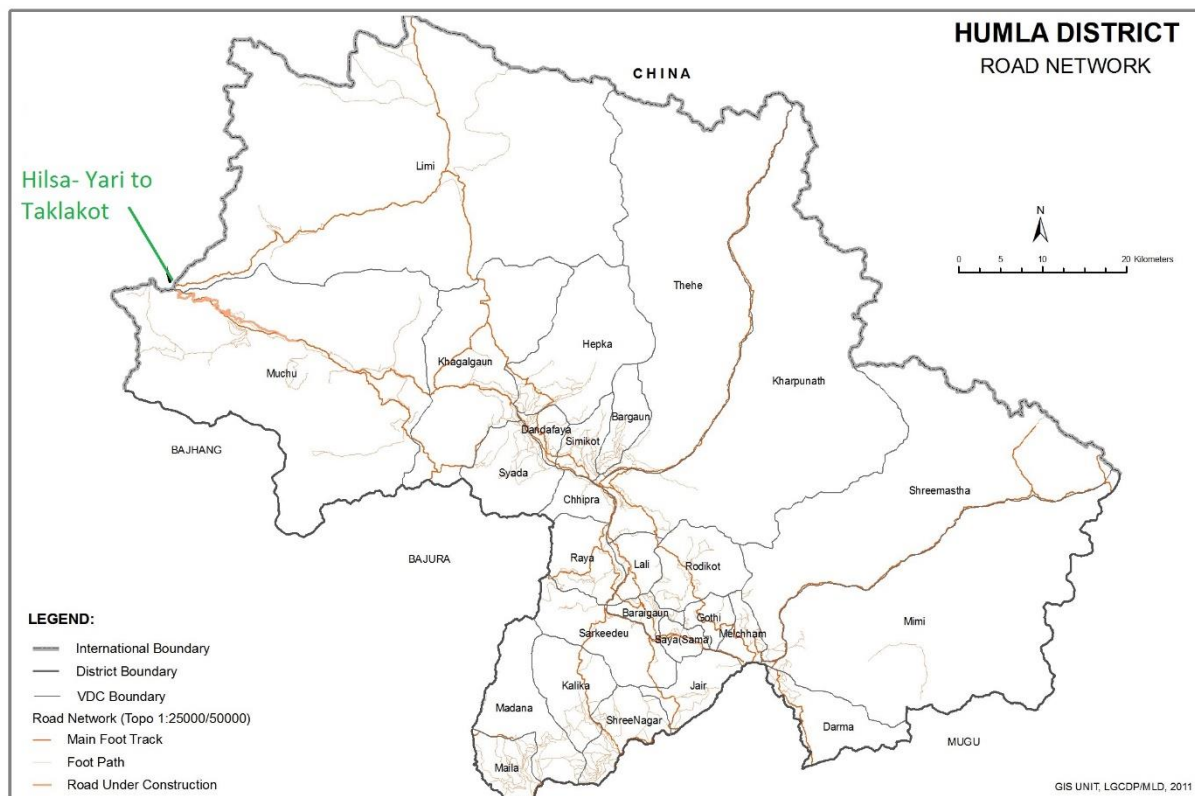
This is not a commonly used trade route. MAPs harvested from western part of Darchula district is usually transported to Tibet via Yari Hilsa (in Humla district). But in the recent years, trade (both documented and undocumented) has commenced through this route (using the Tinker Pass, 5250m) in small quantities, mainly by the residents of Rapla and Byas VDCs that are engaged and highly dependent on MAP collection and trade.



### ***Hilsa- Yari (Humla District)***

Category: Vibrant trade route  
Custom office: Present/Seasonal (Stationed at Yari village, Muchu VDC and at Simikot during winter)  
Next Tibet market: Taklakot

This is a vibrant trade route. High valued MAPs like Satuwa, Ban Lasun (Kakoli), Yarsagumba, etc., harvested even from ***other districts*** (apart from Humla district) are traded into Tibet from this route. If the volume is high, central wholesalers at Simikot charter helicopter from Simikot to Hilsa. A road network joins Yari to Taklakot.



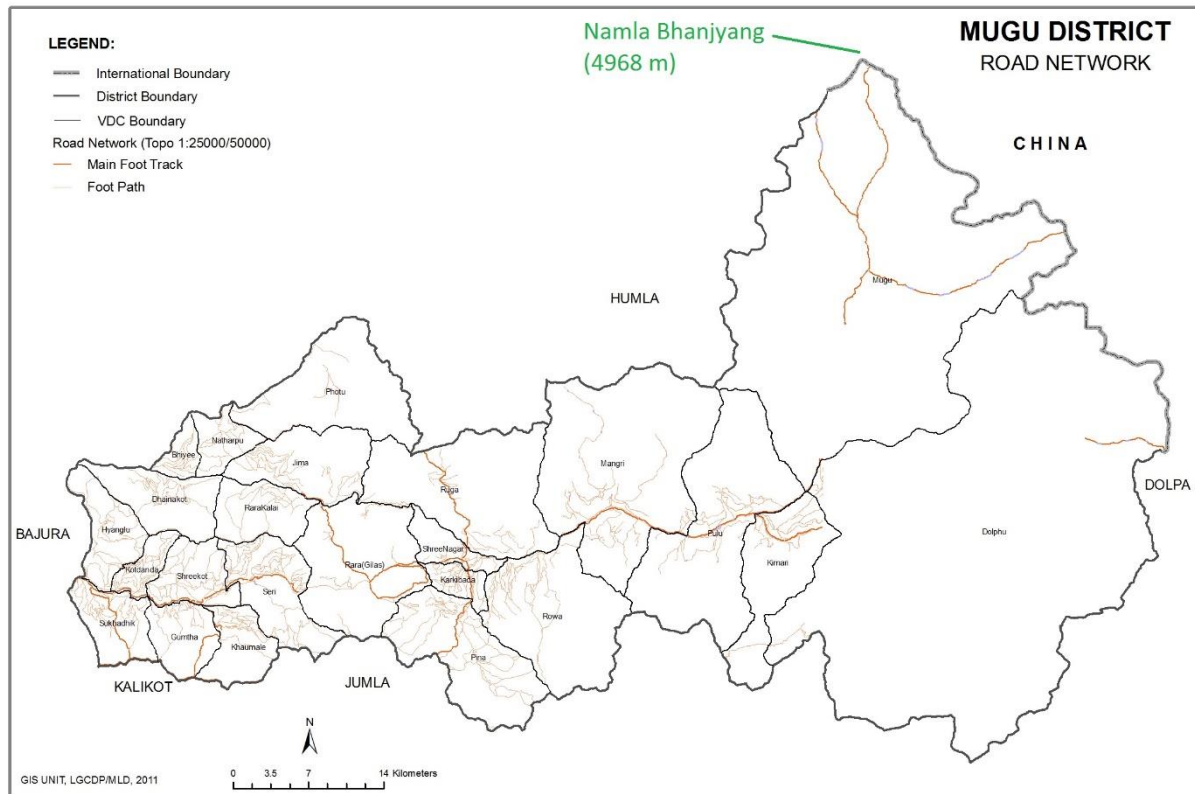
### ***Namla Pass (Mugu District)***

Category: Non-vibrant trade route

Custom office: Present/Seasonal (Stationed at district headquarter Gamgadi)

Next Tibet market: Taklakot ?

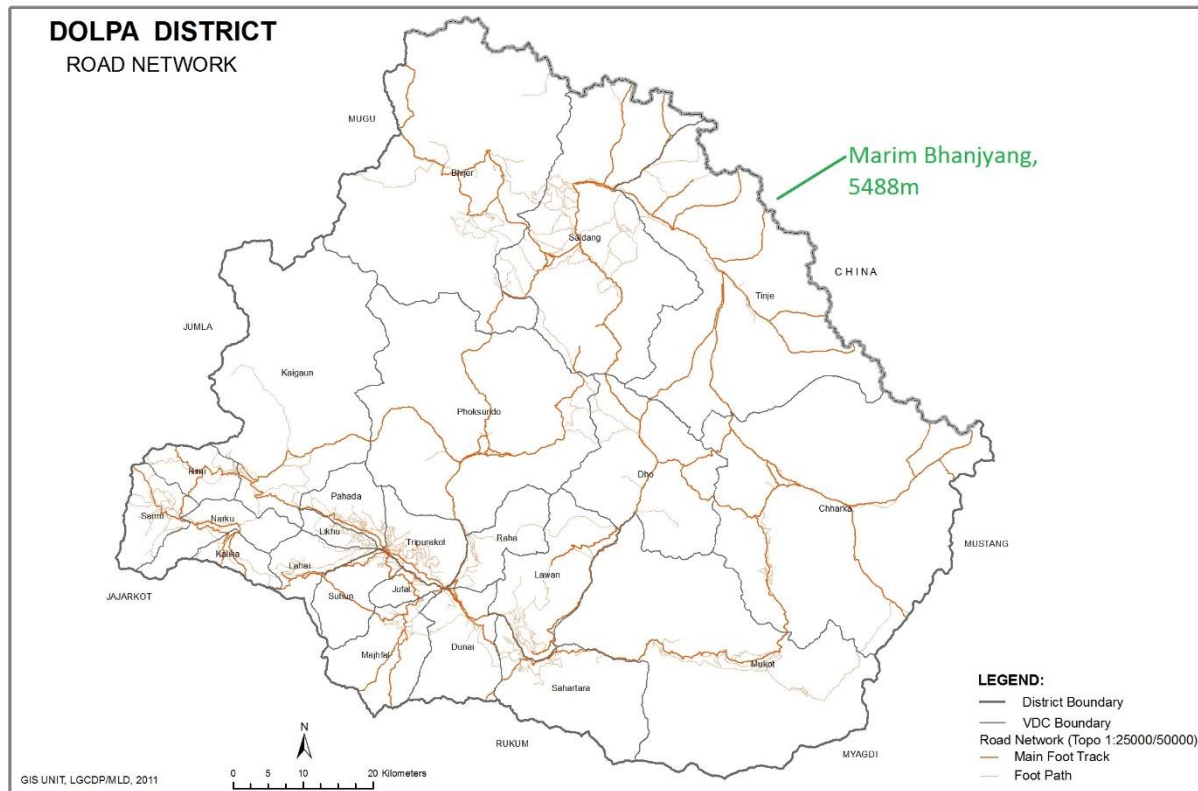
Not much is known about this trade rout. The Government of Nepal has a long term vision to connect further to Tibet through the Namla Pass in Mugu. Unknown if MAPs are traded across this pass.



### **Marim Pass (Dolpa District)**

Category: Non-vibrant trade route  
Custom office: Absent  
Next Tibet market: Unknown

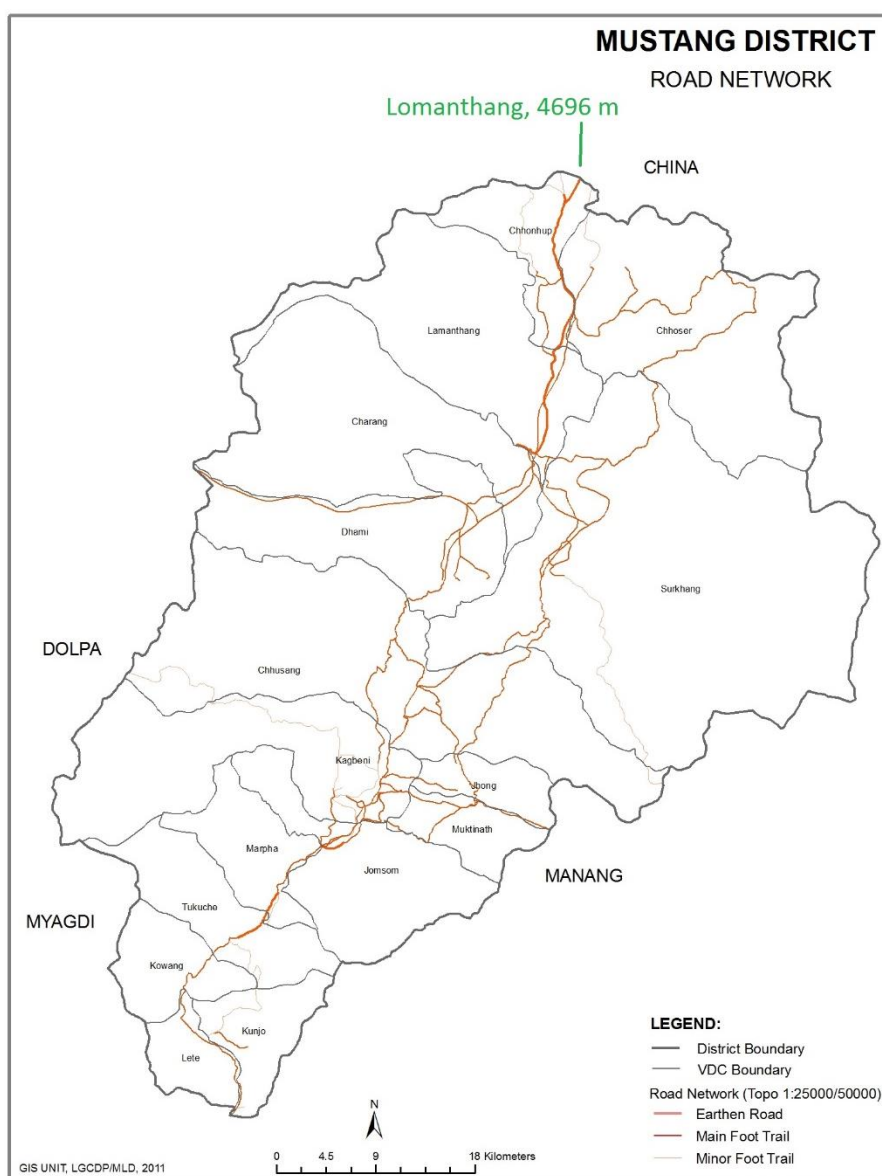
Due to very difficult terrain and harsh environmental conditions, MAP trade in bulk is not possible across this pass. Local residents may trade MAPs in limited quantities but this remains unknown.



### ***Lomanthang (Mustang District)***

Category: Non-vibrant trade route  
Custom office: Present (Stationed at district headquarter, Jomsom)  
Next Tibet market: Unknown

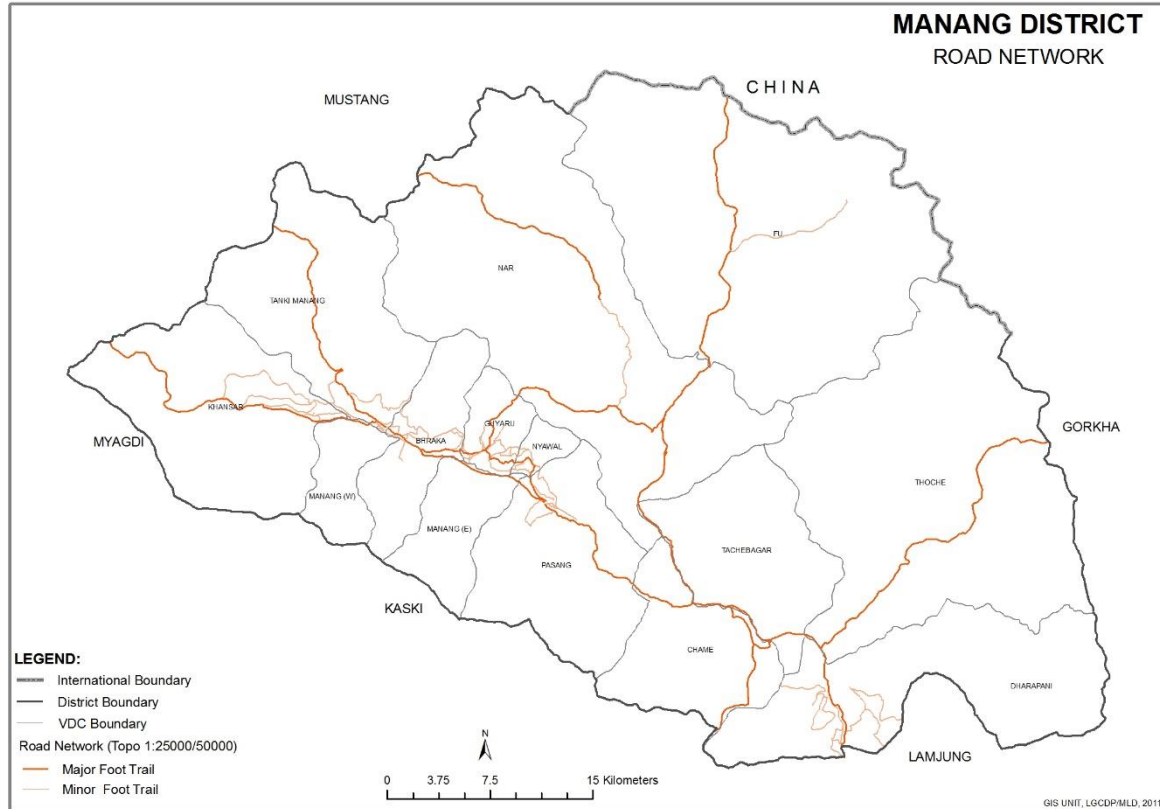
This pass is easy to cross and a road connects Jomsom to Tibet. But as per the consultation with the Customs officer in Jomsom, the major import items are cattle, food, and garments and nothing is exported (formally). But Tibetan traders visit Lomanthang in August and September (during annual festival) and purchase Yarsagumba (90 kg traded from Lomanthang in 2013 Aug- Sept) and other MAPs from traders and collectors. The annually traded volume, however, is probably small.



## Manang

Category: No route exists  
Custom office: Absent  
Next Tibet market: Unknown

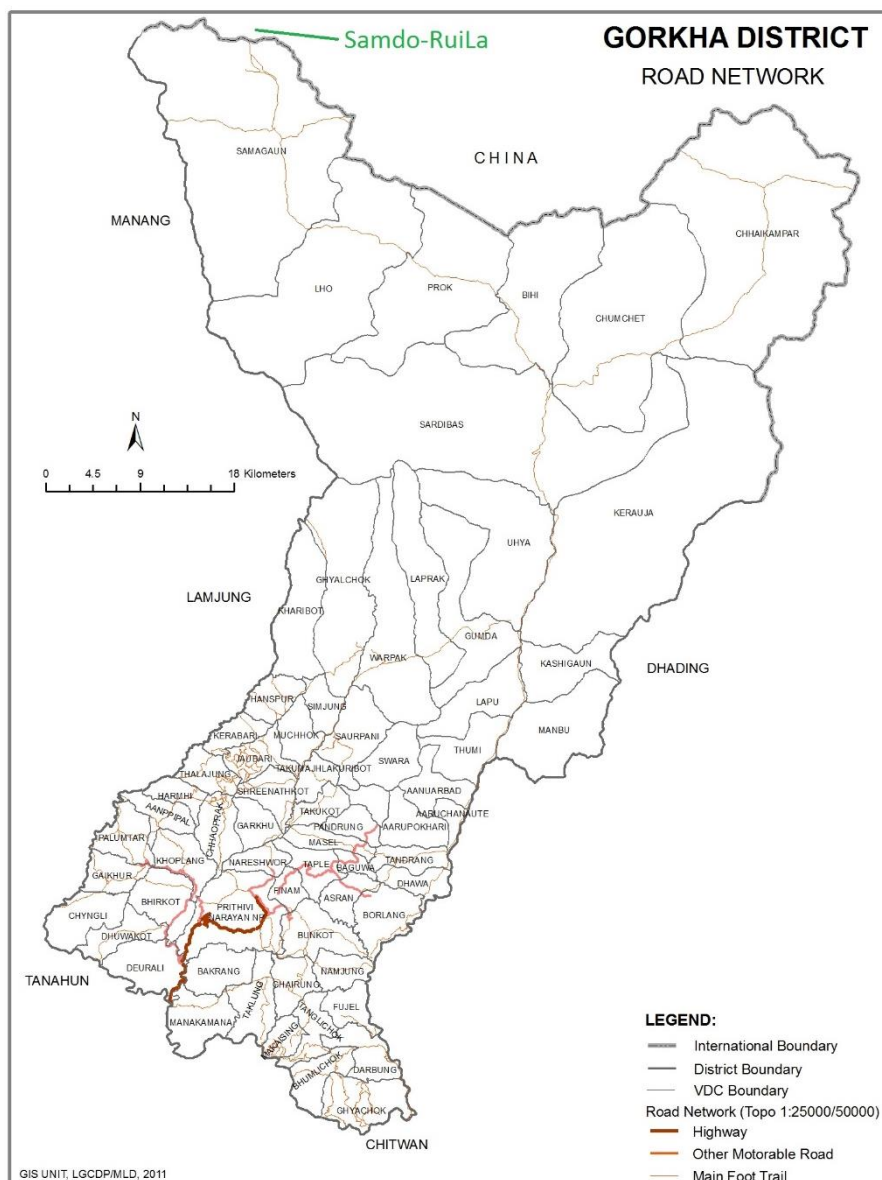
MAPs collected from Manang district are traded via Chame-Besisahar (towards India) and by crossing Larke Pass and then to Samdo-Ruila (i.e. to Tibet through Gorkha district).



### **Samdo – Rui La (Gorkha)**

Category: Vibrant trade route  
Custom office: Present (Stationed at district headquarter, Gorkha)  
Next Tibet market: Rui La

High value MAPs from Manang (after crossing Larke Pass) and northern parts of Gorkha (Nubri valley- comprise Prok, Lho and Samagaun VDC) are traded by this route. Local residents recognize Samdo-Ruila as a relatively safe route. MAPs, both low and high valued are traded from this route. The local youth clubs collect revenue for exported MAPs. There are also passes in the Tsum valley (in the eastern part of northern Gorkha used for the informal export of MAPs).





**Dhading**

Category: No route that directly connect Dhading with Tibet  
Custom office: Absent  
Next Tibet market: No

The trade from Dhading to Tibet is apparently taking place but in limited amounts (according to FECOFUN district chairman).

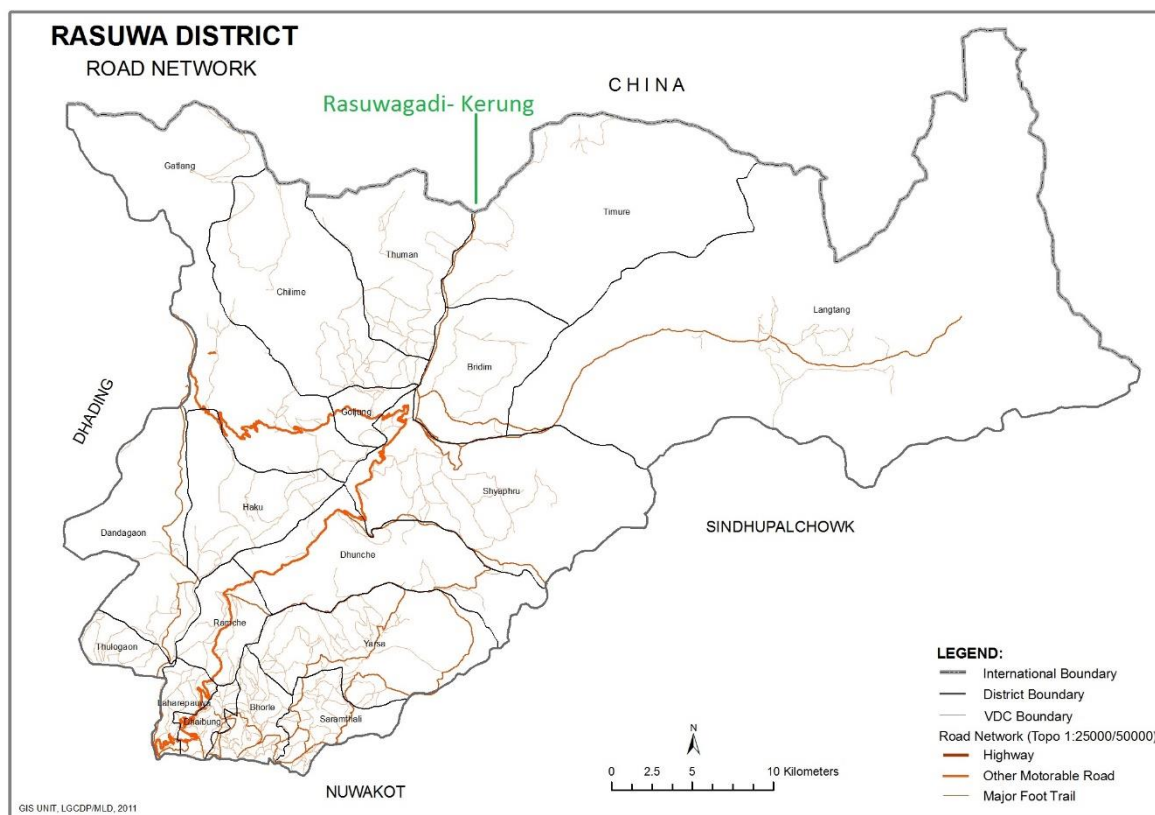




### ***Rasuwagadi-Kerung (Rasuwa)***

Category: Most vibrant  
Custom office: Present (Stationed at Rasuwagadi)  
Next Tibet market: Kerung

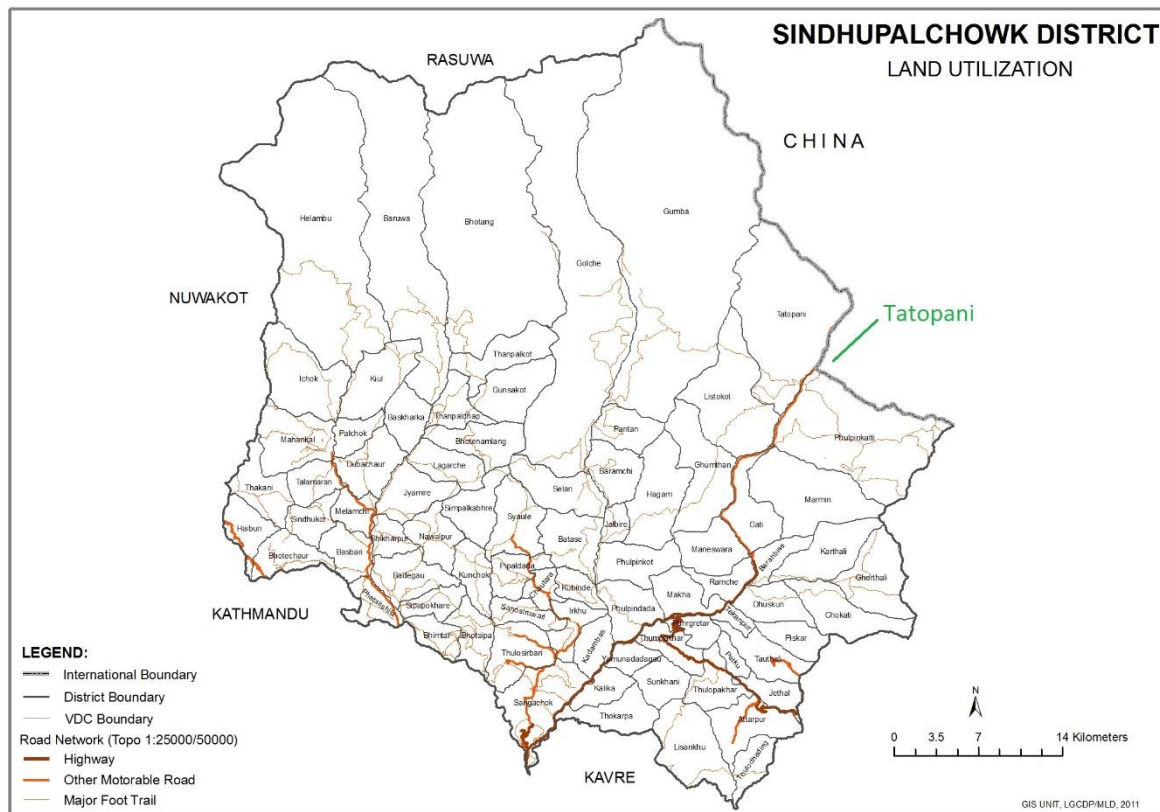
This pass is reached by road from Kathmandu and easily crossed. Recently formalized by both governments. MAPs exported to Tibet (from whole Nepal) are centered at Kathmandu and then transported via Rasuwagadi and Tatopani, the latter being the most vibrant of all trade routes. MAPs are loaded in containers and export via these routes. The transport permit for MAPs to be exported via Rasuwagadi and Tatopani are issued by the District Forest Office of Kathmandu and Bhaktapur. So they have the list of all exporters.



### ***Tatopani (Sindhupalchowk)***

Category: Most vibrant  
Custom office: Present (stationed at Tatopani)  
Next Tibet market: Zhagmu

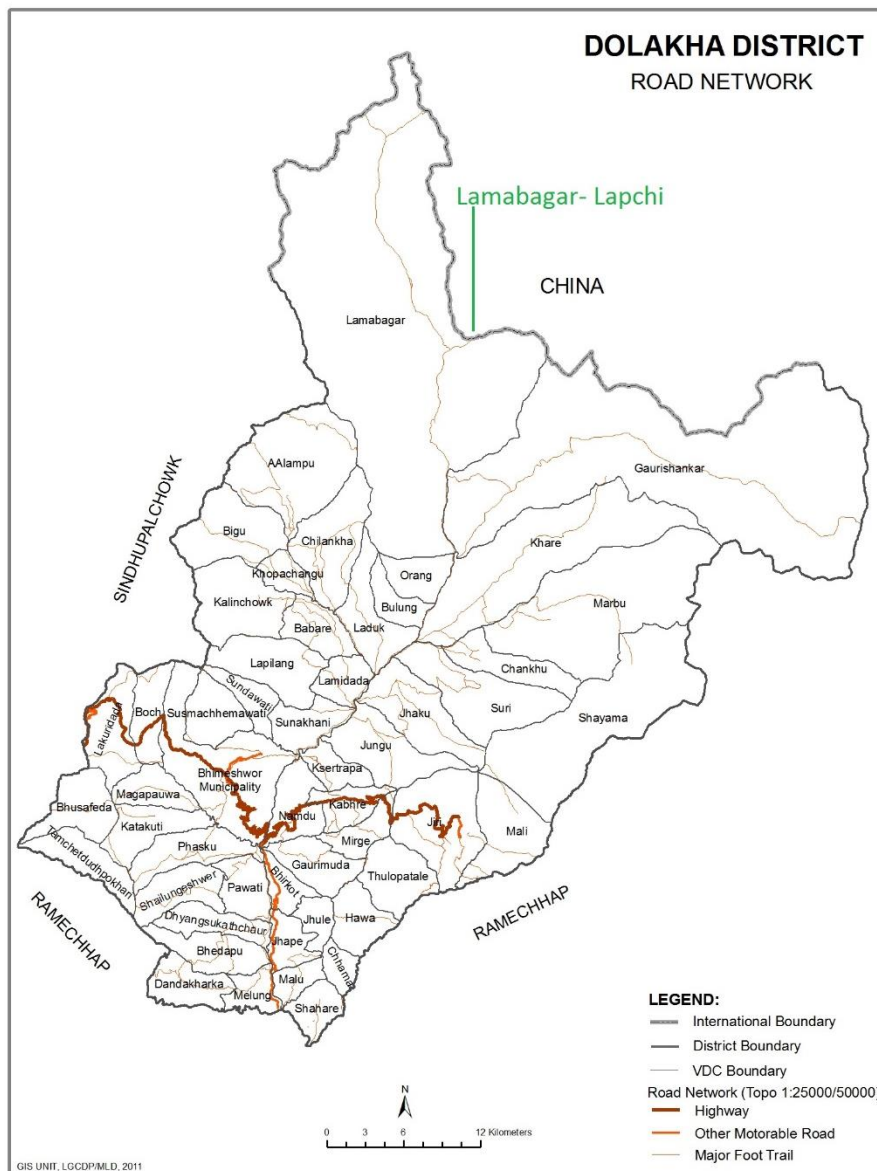
As noted above, this is a very vibrant trade route, actively used for large scale export of MAPs from Nepal to Tibet.



### **Lamabagar – Lapchi (Dolakha)**

Category: Non-vibrant  
Custom office: Present (stationed at Lamabagar)  
Next Tibet market: Unknown.

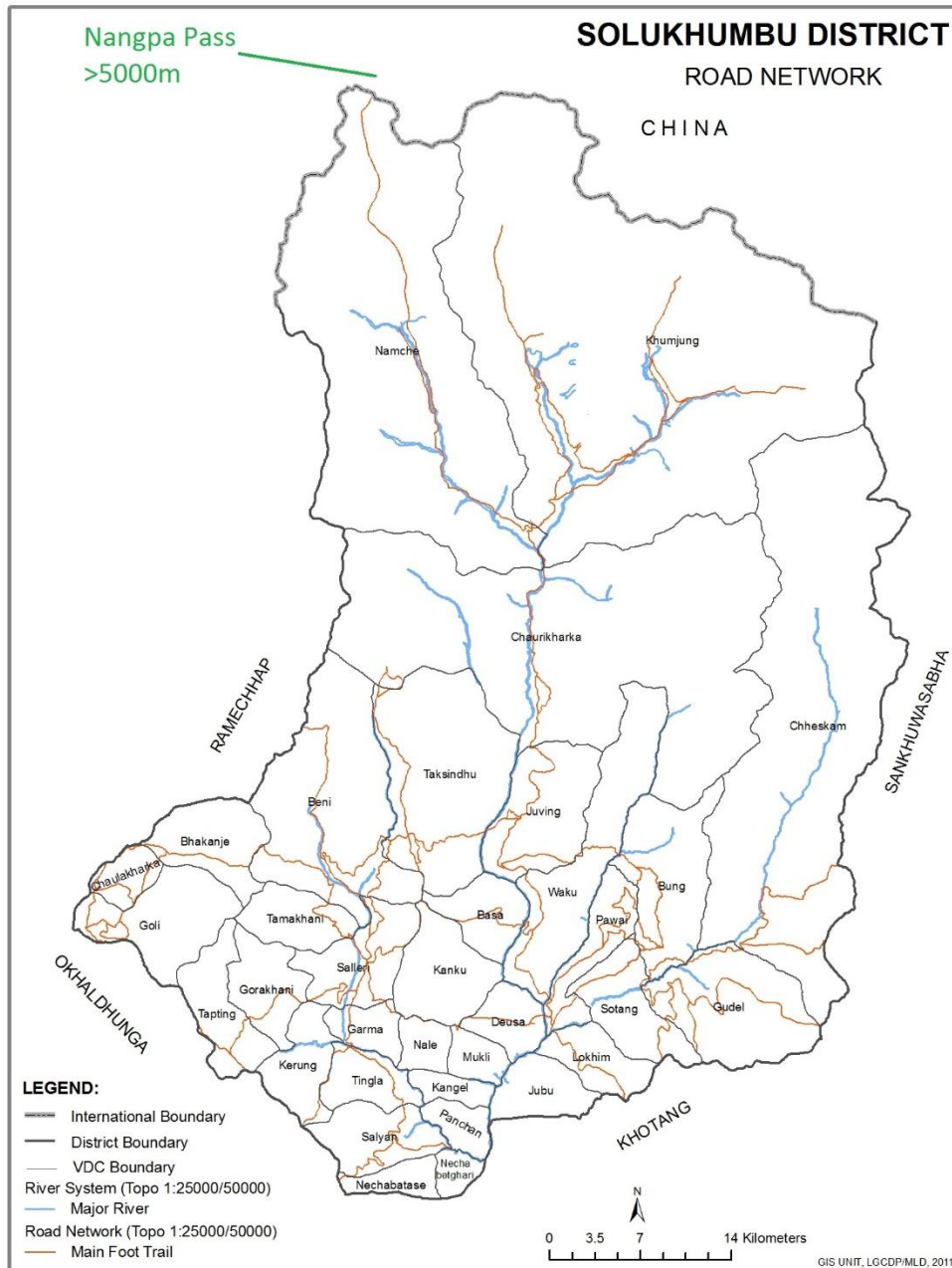
Due to difficult terrain and harsh climate, only the highland residents of Lamabagar are engaged in MAPs trade across this pass, and still a barter system is apparently used in trade. The highland residents carry smaller quantities of MAPs in sacs, travel to the Tibetan border, and exchange these MAPs with other items of their requirement.



### ***Nangpa Pass (Solukhumbu District)***

Category: Non-vibrant  
Custom office: Absent  
Next Tibet market: Unknown

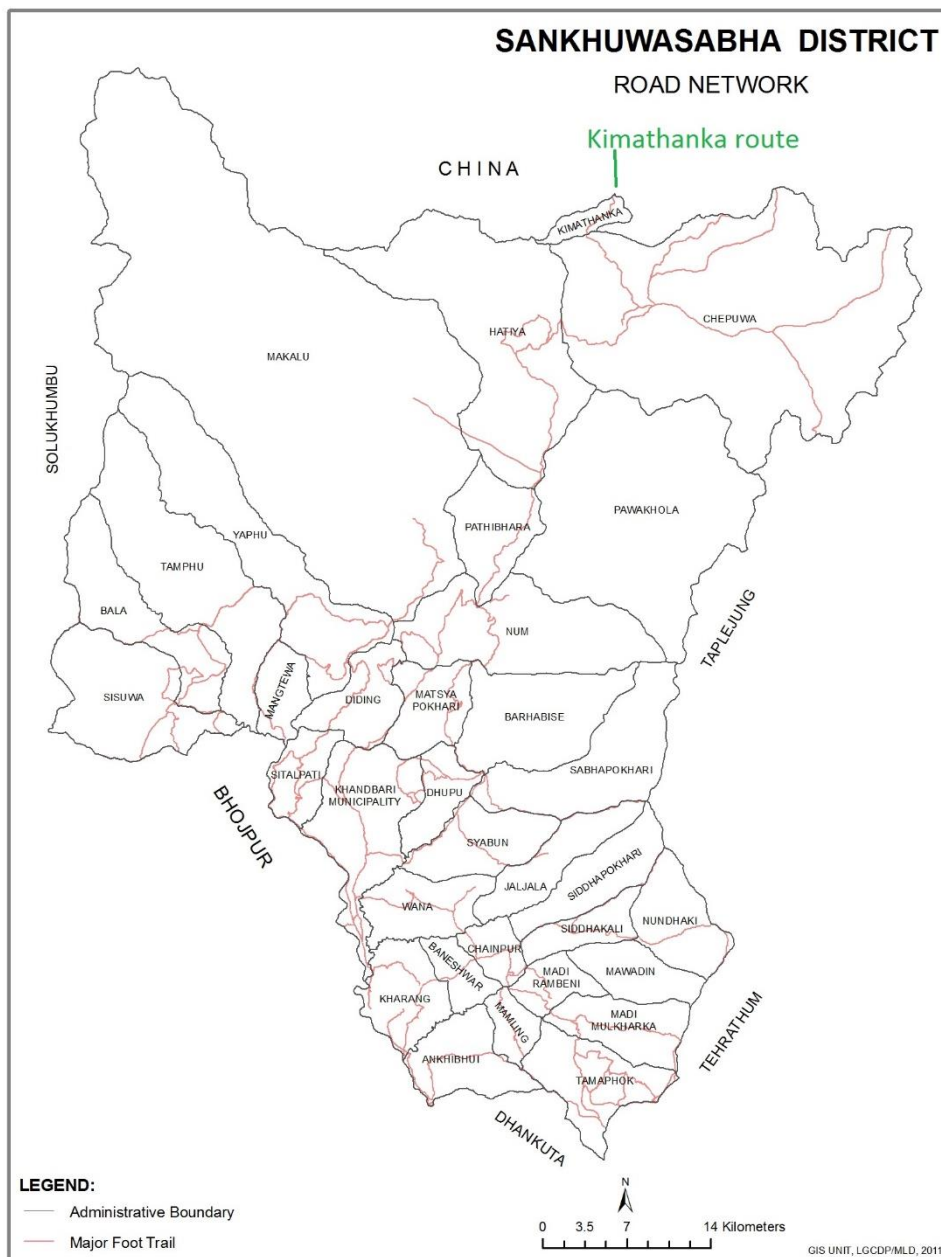
This pass is extremely difficult to cross. There is virtually no record of trade except few instances of wildlife poaching. A limited amount of high valued MAPs may also be traded this way.



### ***Kimathanka (Sankhuwasabha district)***

Category: Vibrant  
Custom office: Present (stationed at district headquarter?)  
Next Tibet market: Rio

The agents of central wholesalers (operating from the district headquarter in Khandbari) are stationed at Hatiya VDC and purchase MAPs from harvesters (seen in 2014). The most commonly traded MAP is chiraito, followed by rudrakshya, ban lasun, and satuwa. In this area, traders also use helicopters to export MAPs. In 2009-10, satuwa and chiraito from Mid western Nepal were exported along this route.

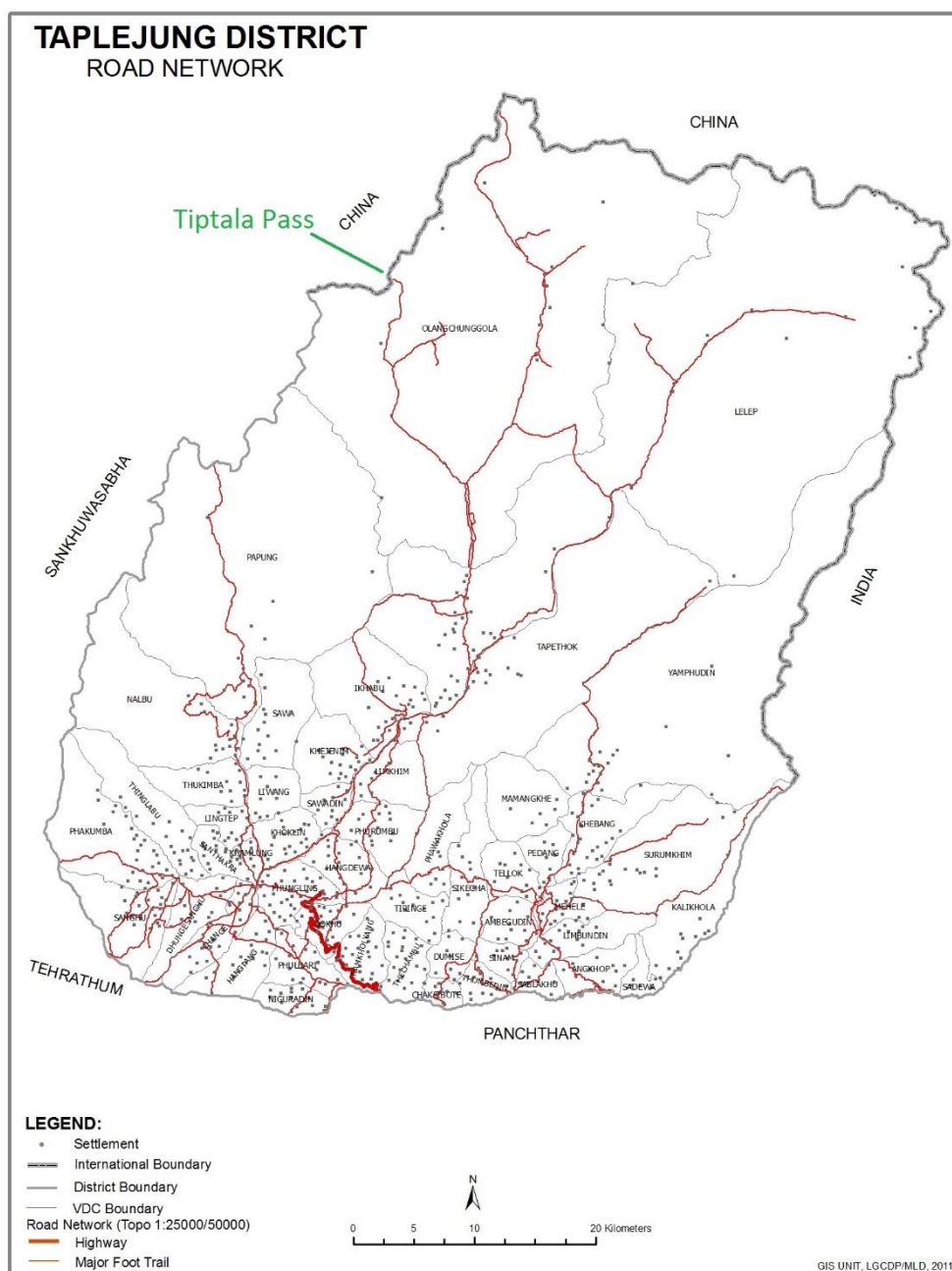




### Walangchung Gola - Tiptala

Category: Vibrant  
Custom office: Present (stationed at Walangchung gola)  
Next Tibet market: Rio

Chiraito and kutki are the main items of trade across this pass, followed by maikopila (*Saussurea gossipiflora*). Traders have socio-economic bonding with residents of Walagchung Gola and during harvesting time (experienced with kutki harvesting from 2007-2010) these traders visit the harvesting site, purchase kutki (even freshly harvested) and transport to Rio.



## Appendix 2: Standard International Trade Classification

In connection to determine trader and wholesaler characteristics, the questionnaires include questions on whether trader/central wholesaler deals in other products. Specifically we ask: 1. Do you exclusively trade in MAPs? 2. What other main products did you trade in 2071? (If the answer to 1. was “no”).

This Appendix provides an overview to established, related standard codes, specifically the codes in the Standard International Trade Classification (SITC), Revision 4. Further details are available at <http://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=28>.

0 - Food and live animals	00 - Live animals other than animals of division 03
	01 - Meat and meat preparations
	02 - Dairy products and birds' eggs
	03 - Fish (not marine mammals), crustaceans, molluscs and aquatic invertebrates, and preparations thereof
	04 - Cereals and cereal preparations
	05 - Vegetables and fruit
	06 - Sugars, sugar preparations and honey
	07 - Coffee, tea, cocoa, spices, and manufactures thereof
	08 - Feeding stuff for animals (not including unmilled cereals)
	09 - Miscellaneous edible products and preparations
1 - Beverages and tobacco	11 - Beverages
	12 - Tobacco and tobacco manufactures
2 - Crude materials, inedible, except fuels	21 - Hides, skins and furskins, raw
	22 - Oil-seeds and oleaginous fruits
	23 - Crude rubber (including synthetic and reclaimed)
	24 - Cork and wood
	25 - Pulp and waste paper
	26 - Textile fibres (other than wool tops and other combed wool) and their wastes (not manufactured into yarn or fabric)
	27 - Crude fertilizers, other than those of group 56, and crude minerals (excluding coal, petroleum and precious stones)
	28 - Metalliferous ores and metal scrap
	29 - Crude animal and vegetable materials, n.e.s. (not elsewhere specified)
3 - Mineral fuels, lubricants and related materials	32 - Coal, coke and briquettes
	33 - Petroleum, petroleum products and related materials
	34 - Gas, natural and manufactured
	35 - Electric current
4 - Animal and vegetable oils, fats and waxes	41 - Animal oils and fats
	42 - Fixed vegetable fats and oils, crude, refined or fractionated
	43 - Animal or vegetable fats and oils, processed; waxes of animal or vegetable origin; inedible mixtures or preparations of animal or vegetable fats or oils, n.e.s.
5 - Chemicals and related products, n.e.s.	51 - Organic chemicals
	52 - Inorganic chemicals
	53 - Dyeing, tanning and colouring materials
	54 - Medicinal and pharmaceutical products

	55 - Essential oils and resinoids and perfume materials; toilet, polishing and cleansing preparations
	56 - Fertilizers (other than those of group 27)
	57- Plastics in primary forms
	58- Plastics in non-primary forms
	59- Chemical materials and products, n.e.s.



## Appendix 3: Structured surveys

This appendix provides the text of the quantitative part of the Harvester survey, Trader survey, Central wholesaler survey, Regional wholesaler survey, Processor survey, Tibet-border trade survey, Pre-consumer survey, Consumer survey, and Livelihood case studies. Note that section 3.10 contains an overview of codes used across questionnaires.

### 3.1 Harvester survey (quantitative part)

Wording of question	Hint	Choices
Welcome to the "Harvesters" questionnaire	-	-
<b>Section A: Interview background information</b>	-	-
Respondent's consent to participate in the interview has been obtained	-	-
Name of the interviewer?	-	Dipesh (ID 1-999) Arjun (ID 1000-1999) He Jun (ID 2000-2999) Kirti Nepal (ID 3000-3999) Research Assistant (ID 4000-4999)
Interview number (ID)?*	-	Restricted value (conditional upon answer to question "Name of the interviewer?")
Date of the interview?	Required format: yyyy-mm-dd	-
District where the interview takes place?	-	15 interview districts <sup>1</sup>
Record interview location (GPS)	-	-
<b>Section B: Harvester background information</b>	-	-
How old are you?	-	15-80 years
Sex of the respondent?	-	Male Female
In which district and VDC do you live?	-	15 interview districts <sup>1</sup> and corresponding VDCs, remaining districts of Nepal (without VDCs)
Which ethnic group/caste do you belong to?	-	101 castes <sup>2</sup> , unidentified Dalit, unidentified caste
For how many years have you been harvesting MAPs?	-	1-60 years
What is the sex of your head of household?	-	Male

Wording of question	Hint	Choices
		Female
How many adults (15 years and above) live in your household?	-	0-20 adults
How many children (below 15 years) live in your household?	-	0-20 children
Did adult females, in your household, harvest MAPs for sale in 2071?	-	Yes
		No
		Not applicable
Did adult males, in your household, harvest MAPs for sale in 2071?	-	Yes
		No
		Not applicable
Did girls (below 15 years old), in your household, harvest MAPs for sale in 2071?	-	Yes
		No
		Not applicable
Did boys (below 15 years old), in your household, harvest MAPs for sale in 2071?	-	Yes
		No
		Not applicable
What is the education level of your head of household?	Select highest level completed	Beginners
		Primary (1-5)
		Lower Secondary (6-8)
		Secondary (9-10)
		S.L.C. and Equivalent
		Intermediate and Equivalent
		Graduate and Equivalent
		Post Graduate Equivalent and Above
		Non-formal education
		Level not stated
How wealthy is your household, when compared to others in your village?	-	Below average wealth
		Around average wealth
		Above average wealth
What was your household's total annual cash income in 2071?	E.g. remittances, environmental income, crop income, livestock income, business, wage labour, pension et cetera - in Nepalese Rupee	4000000 Nepalese Rupee
<b>Section C: Harvesting background information for MAP products harvested for sale in 2071</b>	-	-

Wording of question	Hint	Choices
This is the start of the repeat-loop for MAP products.	-	-
Select a MAP product that the respondent sold in 2071 (one of the MAP products on your list)	-	46 MAP products <sup>3</sup> , other
Specify "other" MAP product sold by the respondent in 2071*	-	-
Was this MAP harvested in the wild or domesticated?	1. Wild harvest: Gathering of MAPs growing in the wild e.g. from community land, forests or alpine meadows; 2. Domestication: Gathering of MAPs from agricultural land, where they have been cultivated actively, in smallholder plantations or by planting desired species, between fields.	Wild
		Domesticated
		Both wild and domesticated
Is the respondent a dedicated or opportunistic collector?*	1. Dedicated collectors: MAP collection is undertaken as a specific main activity, e.g. in small groups travelling to remote areas with the primary purpose of collecting; 2. Opportunistic collectors: MAP collection is undertaken along with other activities, e.g. by high altitude herders.	Opportunistic
		Dedicated
Is the respondent an adaptive or commercial domesticator?*	1. Adaptive domesticators plant or transfer natural regeneration, and protect MAPs between agricultural fields. Usually at lower altitudes; 2. Commercial domesticators cultivate MAPs on agricultural land in smallholder plantations or in home gardens. Only found at lower altitudes.	Adaptive
		Commercial
Select two: One type of collector and one type of domesticator*	Select one type of collector and one type of domesticator. 1. Dedicated collectors: MAP collection is undertaken as a specific main activity, e.g. in small groups travelling to remote areas with the primary purpose of collecting; 2.	Opportunistic
		Dedicated

Wording of question	Hint	Choices
	Opportunistic collectors: MAP collection is undertaken along with other activities, e.g. by high altitude herders. 1. Adaptive domesticators plant or transfer natural regeneration, and protect MAPs between agricultural fields. Usually at lower altitudes; 2. Commercial domesticators cultivate MAPs on agricultural land in smallholder plantations or in home gardens. Only found at lower altitudes.	Adaptive
		Commercial
In which months did you harvest this MAP (in 2071)?	Select multiple months if applicable	Nepalese months
How many days did you spend collecting this MAP (in 2071)?*	E.g. select "1" for up to one day, "2" for up to two days, et cetera	-
What was your mean of transportation, to reach your main harvesting site (in 2071)?	Select multiple if applicable	Bicycle
		Bull cart
		Bus
		Jeep
		Motorcycle
		Pack animal
		Tractor
		Truck
		Walk
Was this MAP derived from a tree?*	-	Yes
		No
How many trees did the respondent own/cultivate for this product (in 2071)?*	-	1-1500 trees
Provide information about the extent of the respondent's cultivation effort, for this MAP (in 2071), e.g. land area under cultivation, number of plants, et cetera*	-	-
How much land was under cultivation for this MAP product (in 2071)?*	In Ropani	1-200 Ropani
In what type of land was this MAP harvested (in 2071)?	Select multiple if applicable	Private land
		Community land
		Government land

Wording of question	Hint	Choices
In which months was this MAP sold (in 2071)?	Select multiple if applicable	Nepalese months
To whom was the MAP sold (in 2071)?	Select multiple if applicable. 1. Itinerant sub-local traders move from village to village beyond the road network; usually cover many districts. Often focus on selected high-value products. Always actively contact harvesters. Rare; 2. Permanent sub-local traders have a permanent presence. May or may not receive or distribute advances; harvesters may be contacted actively or passively. May act as broker or commission agent. Common; 3. Specialist local traders are located in or near the district of origin; average catchment area of 1-3 districts. Trading exclusively in medicinal plants. Rare; 4. Generalist local traders are located in or near districts of origin; average catchment area of 1-3 districts. Trading a number of items besides medicinal plants. Common; 5. Processors buy MAPs originating in Nepal and process them e.g. producing essential oils, incense, et cetera; 6. Multi-purpose cooperatives are cooperatives, which buy MAPs from harvesters	Itinerant sub-local trader
		Permanent sub-local trader
		Specialist local trader
		Generalist local trader
		Processor
		Multi-purpose cooperative
Did you sell this MAP exclusively at your residence (in 2071)?	-	Yes
		No
Share (%) of this MAP you delivered to the buyer (in 2071)?*	Enter percentage as value between 1 and 100	1-100 percent

Wording of question	Hint	Choices
Distance to your selling site (in hours from residence, in 2071)?*	Value must be between 1 and 240. E.g. select "1" for distances up to one hour, "2" for distances between one and two hours, et cetera	1-240 hours
Mean of transportation to your main selling site in 2071?*	Select multiple if applicable	Bicycle Bull cart Bus Jeep Motorcycle Pack animal Tractor Truck Walk
Unit of sale for this MAP product?	-	Kg Pieces
Total volume of this MAP product you sold in 2071?	In kg or pieces	1-5000 trading units
Total cash income from this MAP product in 2071?	in Nepalese Rupees	1-1000000 Nepalese Rupee
<b>Section D: Costs associated with MAP harvest and sale</b>	-	-
Did the respondent sell all MAP products exclusively at his residence (in 2071)?	Attention! You already know the answer to this question, from the repeat loop, about individual MAP products, sold by the respondent!	Yes No
Total annual transport cost associated with MAP harvest (in 2071)?	-	0-10000 Nepalese Rupee
Total annual transport costs associated with MAP sale, for MAPs delivered to the buyer (in 2071)?*	-	1-10000 Nepalese Rupee
Types of rent-seeking encountered for MAPs that you delivered to the buyer (in 2071)?*	-	Rent-seeking from forest staff Rent-seeking from police officers Other rent-seeking No rent-seeking encountered
Total annual cost of each type of rent-seeking for MAPs that you delivered to the buyer (in 2071)?* (Question will be repeated for each type of rent-seeking selected in the question: "Types of rent-seeking encountered for MAPs that	-	1-20000 Nepalese Rupee

Wording of question	Hint	Choices
were delivered to the buyer (in 2071)?") including "other" rent-seeking*		
Did you have any other costs associated with harvesting or selling MAPs (in 2071)?	-	Yes
		No
Specify "other" costs associated with harvesting or selling MAPs in 2071*	Specify each type of "other" cost and the total annual costs incurred for each	-
The interview has been completed - thank the respondent for his time and participation	-	-
<b>Section E: Enumerators comments</b>	-	-
How reliable is the information generally provided by this respondent?	-	Poor
		Reasonably reliable
		Very reliable
Any comments or additional information about the interview?	-	-

\* Appearance of section, question or answer choices is conditional upon answer(s) to previous question(s)

### 3.1.1 Yarsagumba harvester survey (quantitative part)

This appendix provides the text of the yarsagumba harvester survey (quantitative and qualitative parts), a complementary harvester questionnaire aimed at generating data when spending time with a large number of yarsagumba harvesters (either in the field or as part of the livelihood studies). Note that section 3.10 contains an overview of codes used across questionnaires, including this one.

Wording of question	Hint	Choices
Welcome to the "Yarsagumba Harvester" questionnaire	-	-
<b>Section A: Interview background information</b>	-	-
Respondent's consent to participate in the interview has been obtained	-	-
Name of the interviewer?	-	Dipesh (ID 1-999) Arjun (ID 1000-1999) He Jun (ID 2000-2999) Kirti Nepal (ID 3000-3999) Research Assistant (ID 4000-4999) Mariève Pouliot (ID 5000 – 5999) Carsten Smith-Hall (ID 6000 – 6999)
Interview number (ID)?*	-	Restricted value (conditional upon answer to question "Name of the interviewer?")
Date of the interview?	Required format: yyyy-mm-dd	-
District where the interview takes place?	-	Darchula or Gorkha
<b>Section B: Harvester background information</b>	-	-
How old are you?	-	8-80 years
Sex of the respondent?	-	Male Female
In which district and VDC do you live?	-	15 interview districts <sup>1</sup> and corresponding VDCs, remaining districts of Nepal (without VDCs)
Which ethnic group/caste do you belong to?	-	101 castes <sup>2</sup> , unidentified Dalit, unidentified caste
For how many years have you been harvesting yarsagumba?	-	1-60 years
What is the size of your household? (no of people)		1-20



Wording of question	Hint	Choices
How many people in your household participate in yarsagumba collection this year?		1-20
How many months is your household food sufficient per year?	<p>This is used as a proxy for food security. Months of food sufficiency here covers subsistence and cash incomes from assets (agricultural land, livestock, businesses, remittances, pensions) excluding income from sale of labour, e.g. wage incomes and incomes from harvesting and selling jaributi (including yarsagumba)</p> <p>In other words, we are interested in how many months the household can eat without having to move beyond the farm or any business activities.</p>	<p>Less than 3 months</p> <p>3-6 months</p> <p>6-9 months</p> <p>More than 9 months</p> <p>Don't know</p>
What is your level of education?	Select highest level completed	<p>Beginners</p> <p>Primary (1-5)</p> <p>Lower Secondary (6-8)</p> <p>Secondary (9-10)</p> <p>S.L.C. and Equivalent</p> <p>Intermediate and Equivalent</p> <p>Graduate and Equivalent</p> <p>Post Graduate Equivalent and Above</p> <p>Non-formal education</p> <p>Level not stated</p>
How wealthy is your household, when compared to others in your village?	-	<p>Below average wealth</p> <p>Around average wealth</p> <p>Above average wealth</p>
What was your personal total annual cash income in 2072?	<p>Note: Important: Here, we are interested in the cash income generated (e.g. through product collection or crop commercialization) by the respondent. No matter if the respondent got to dispose of the income him/herself.</p> <p>Examples: Environmental and forest income: only products collected by the respondent</p>	0-4000000 Nepalese Rupee

Wording of question	Hint	Choices
	<p>Crop income: only products cultivated and sold by the respondent</p> <p>Livestock income: only products sold by the respondent</p> <p>Wage labour: only wages earned by the respondent</p> <p>Business: only income derived through business activities conducted by the respondent</p> <p>Remittances, pensions, gifts: only money received by the respondent</p>	
What is the % medicinal and aromatic plants made up of this cash income in 2072?	Includes yarsagumba and all other jaributi	0-100
What is the % yarsagumba made up of this cash income in 2072?	Only yarsagumba	0-100
<b>Section C: Data on yarsagumba harvest(s)</b>	-	-
This is the start of the repeat-loop for yarsagumba harvesting.	-	-
Select a year in which you harvested yarsagumba	<p>This covers the five past years (2073, 2072, 2071, 2070, 2069). Start from the present year and then work your way backwards.</p> <p>Note: for 2073 it's only data for the days so far – no projections!</p>	Nepalese years
How many days did you spend collecting yarsagumba in that year?	The number of days in the field harvesting yarsagumba (excluding transports days to and from harvesting sites).	1-90
How many pieces did you collect in average per day in that year?	-	0-100
What was the average price you obtained per piece in that year?	-	1-600 Nr/pcs
How much advance payment did you receive that year?	-	0-100000 Nr

Wording of question	Hint	Choices
To whom did you sell yarsagumba in that year?	Select multiple if applicable. 1. Itinerant sub-local traders move from village to village beyond the road network; usually cover many districts. Often focus on selected high-value products. Always actively contact harvesters. Rare; 2. Permanent sub-local traders have a permanent presence. May or may not receive or distribute advances; harvesters may be contacted actively or passively. May act as broker or commission agent. Common; 3. Specialist local traders are located in or near the district of origin; average catchment area of 1-3 districts. Trading exclusively in medicinal plants. Rare; 4. Generalist local traders are located in or near districts of origin; average catchment area of 1-3 districts. Trading a number of items besides medicinal plants. Common; 5. Processors buy MAPs originating in Nepal and process them e.g. producing essential oils, incense, et cetera; 6. Multi-purpose cooperatives are cooperatives, which buy MAPs from harvesters	Itinerant sub-local trader
		Permanent sub-local trader
		Specialist local trader
		Generalist local trader
		Processor
		Multi-purpose cooperative
End of loop		
How was the cash income (reported earlier) spent in 2072?	Total amount of cash income (in Nr, needs to be calculated from previous questions) needs to be distributed to the listed consumption categories.	House and other construction incl. repairs
		Food
		Medicine and health care
		Celebrating festivals

Wording of question	Hint	Choices
		Children's education
		Clothes
		Savings
		Paying debt
		Others
Has the number of yarsagumba collectors changed in the past five years?	-	No change
		Fewer
		More
		Don't know
Is it, this year, possible for you to collect the same number of yarsagumba pieces per day as you did five years ago?	-	Yes, the same number
		No, I collect more
		No, I collect less
		Don't know
<b>Section D: Costs associated with yarsagumba harvest and sale</b>	-	-
The cost of collection fee	The amount per person that you need to pay (e.g. to VDC, a local committee, or the Conservation Area) to be allowed to collect yarsagumba	0-1000 Nr
Total annual transport cost associated with yarsagumba harvest?	E.g. to transport tents and rice to the collection areas	0-10000 Nepalese Rupee
Types of rent-seeking encountered for yarsagumba?*	-	Rent-seeking from forest staff
		Rent-seeking from police officers
		Other rent-seeking
		No rent-seeking encountered
Total annual cost of each type of rent-seeking encountered for yarsagumba?* (Question will be repeated for each type of rent-seeking selected in the question: "Types of rent-seeking encountered for yarsagumba?")*	-	1-250000 Nepalese Rupee
Did you have any other costs associated with harvesting or selling yarsagumba?	-	Yes
		No
Specify "other" costs associated with harvesting or selling yarsagumba*	Specify each type of "other" cost and the total annual costs incurred for each	-

Wording of question	Hint	Choices
The interview has been completed - thank the respondent for his time and participation	-	-
<b>Section E: Enumerators comments</b>	-	-
How reliable is the information generally provided by this respondent?	-	Poor
		Reasonably reliable
		Very reliable
Any comments or additional information about the interview?	-	-

\* Appearance of section, question or answer choices is conditional upon answer(s) to previous question(s)

### 3.2 Trader survey (quantitative part)

Wording of question	Hint	Choices
Welcome to the “Traders” questionnaire	COLLECT ONLY INFORMATION ON MAPS ORIGINATING IN THE DISTRICT UNDER INVESTIGATION	-
<b>Section A: Introduction</b>	-	-
Aim of research project: Increase production and sustainability of supply of medicinal plants through better management/cultivation - for this we need to know about trade structure and processes, including important products.	-	-
Respondent's consent to participate in the interview has been obtained	-	-
Name of the interviewer?	-	Dipesh (ID 1-999) Arjun (ID 1000-1999) He Jun (ID 2000-2999) Kirti Nepal (ID 3000-3999) Research Assistant (ID 4000-4999)
Interview number (ID)?*	-	Restricted value (conditional upon answer to question “Name of the interviewer?”)
Date of the interview?	Required format: yyyy-mm-dd	-
District where the interview takes place?	-	75 districts of Nepal <sup>4</sup>
Record interview location (GPS)	-	-
<b>Section B: General information</b>	-	-
Name of the respondent?	-	-
Is the respondent the owner of the trading business?	-	Yes No
Name of the trading business (if any)?	-	-
Year in which the business was established?	Select as NEPALESE YEAR	Nepalese year between 2020-2071
To which trader type does the respondent belong?	1. Itinerant sub-local trader: Itinerant sub-local traders travel from village to village and from district	Itinerant sub-local trader

Wording of question	Hint	Choices
	to district, usually beyond the road network. They are not common and usually focus on purchasing products of very high value; 2. Permanent sub-local trader: Permanent sub-local traders have a permanent presence in their catchment area e.g. a shop or just their own house; 3. Specialist local trader: Specialist local traders deal exclusively in medicinal plants; 4. Generalist local trader: Generalist local traders deal with medicinal plants as part of a more diversified business	Permanent sub-local trader
		Specialist local trader
		Generalist local trader
Trader's address?	Write the name of the municipality/VDC (telephone number and email-address will be obtained in the next two questions)	-
Trader's telephone number?	-	-
Traders email address?	If available	-
Do you trade exclusively in MAPs?	-	Yes
		No
Which other main products did you trade in 2071?*	-	Food
		Beverages
		Tobacco
		Crude materials (inedible)
		Mineral fuels, lubricants and related materials
		Soaps and cosmetics
		Clothes and shoes
		Machinery
		Other
Specify "other" product traded (in 2071)?*	-	-
Share of MAP trade (in %) in total annual business turnover (in 2071)?*	Enter percentage as value between 1 and 100	1-100 percent
Number of permanent employees of the business?	The owner of the business and members of his household do not count as employees	0-50 employees
Number of temporary (seasonal) employees of the business?	The owner of the business and members of his household do not count as employees	0-50 employees
<b>Section C: Socio-economic profile</b>	-	-

Wording of question	Hint	Choices
How old are you?	-	18-80 years
Sex of the respondent?	-	Male Female
Which ethnic group/caste do you belong to?	-	101 castes <sup>2</sup> , unidentified Dalit, unidentified caste
Which is the highest level of education that you have completed?	Select highest level completed	Beginners Primary (1-5) Lower Secondary (6-8) Secondary (9-10) S.L.C. and Equivalent Intermediate and Equivalent Graduate and Equivalent Post Graduate Equivalent and Above Non-formal education Level not stated
For how many years have you been trading MAPs?	In years: Select "1" for experience up to one (the current) year, "2" for experience between one and two years, et cetera	1-60 years
Trader's estimate of number of harvesters from the district that came to sell to him in 2071?	-	1-2000 harvesters
<b>Section D: Volume and value of individual products traded</b>	-	-
This is the start of the repeat-loop for MAP products.	-	-
Select a MAP product from this district, which was traded by the respondent in 2071 (first MAP product on your list)	-	46 MAP products <sup>3</sup> , other
Specify "other" MAP product traded by the respondent in 2071*	-	-
Trade unit?	-	Kg Pieces
Total volume of this MAP product you purchased in 2071?	In trade unit (kg or pieces)	1-10000 trade units
Share (%) of the total volume you purchased of this MAP in 2071, which is still in stock (i.e. the share that has not been sold yet)?	Enter percentage as value between 0 and 100	0-100 percent



Wording of question	Hint	Choices
Which share (in %), of the total volume of this MAP product you purchased, did you purchase from other traders or multi-purpose cooperatives - as opposed to harvesters (in 2071)?	Enter percentage as value between 0 and 100	0-100 percent
For which share (in %), of the total volume of this MAP product you purchased, did you offer an advance payment (in 2071)?	Enter percentage as value between 0 and 100	0-100 percent
Did you purchase this MAP exclusively at your shop (in 2071)?	-	Yes
		No
Share (%) of this MAP that you picked up from the seller (in 2071)?*	Enter percentage as value between 1 and 100	1-100 percent
Most common purchase price in 2071?	In Nepalese Rupee per trade unit	1-17000 Nepalese Rupee
Has the price of this MAP varied throughout the year 2071?	-	Yes
		No
Highest purchase price in 2071?*	In Nepalese Rupee per trade unit	1-17000 Nepalese Rupee and greater or equal to the most common purchase price
Months of highest purchase price in 2071?*	-	Nepalese months
Lowest purchase price in 2071?*	In Nepalese Rupee per trade unit	Value must be smaller or equal to the most common purchase price
Months of lowest purchase price in 2071?*	-	Nepalese months
Have you been trading this MAP for five or more years?	-	Yes
		No
Total annual high estimate: The highest total annual volume you purchased of this MAP in the past five years*	In trade unit (kg or pieces)	1-10000 and greater or equal to the total volume of this MAP purchased in 2071
Trading year in which the highest total volume was purchased (of the past five years)*	-	2067
		2068
		2069
		2070
		2071
Total annual low estimate: The lowest total annual volume you purchased of this MAP in the past five years*	In trade unit (kg or pieces)	Value must be smaller or equal to the total volume of this MAP purchased in 2071
	-	2067

Wording of question	Hint	Choices
Trading year in which the lowest total volume was purchased (of the past five years)*		2068 2069 2070 2071
Was all of this MAP you sold in 2071 picked up by the buyer, at your shop?	-	Yes No
Share (%) of this MAP's sales volume, that you delivered to the buyer (in 2071)?*	Enter percentage as value between 1 and 100	1-100 percent
To which destination did you sell this MAP in 2071?	-	Nepal India China Other country in Asia (countries other than Nepal, India or China) Europe USA Other destination
To which cities/countries in the selected destinations, did you sell this MAP in 2071? (Question will be repeated for each destination selected in the question: "To which destination did you sell this MAP in 2071?")*	-	Selected cities/countries for each destination5 , other
Which share (in %), of your total trade volume of this MAP, did you sell in this destination (in 2071)? (Question will be repeated for each destination selected in the question: "To which destination did you sell this MAP in 2071?")*	Enter percentage as value between 1 and 100	1-100 percent
<b>Section E: General costs</b>		
Did the respondent purchase all MAP products at his shop (in 2071)?	Attention! You already know the answer to this question, from the repeat loop, about individual MAP products!	Yes No
Were all MAPs, the respondent sold in 2071, picked up by the buyer at the respondents shop?		Yes

Wording of question	Hint	Choices
	Attention! You already know the answer to this question, from the repeat loop, about individual MAP products!	No
Rent of MAP store?	Nepalese Rupee per month (if the shop is owned by the trader, we assume that there is a market for renting and we use rent estimates, for owned stores)	0-20000 Nepalese Rupee
Average storage time for MAP products?	In number of months	0-36 months
Weight loss during storage (in percent)?	Enter percentage as value between 1 and 20	0-20 percent
Total annual transport costs for MAPs picked up from the seller (in 2071?)*	Costs incurred for MAP transport, from the point of purchase to your shop, in Nepalese Rupee	0-100000 Nepalese Rupee
Total annual transport costs for MAPs delivered to the buyer (in 2071?)*	Costs incurred for MAP transport, from your shop to the point of sale, in Nepalese Rupee	0- 100000 Nepalese Rupee
Did you pay DDC tax for MAPs that were picked up by the buyer in 2071?*	-	Yes
		No
		No MAPs were picked up by a buyer
Did you pay DDC tax for MAPs you delivered to the buyer in 2071?*	-	Yes
		No
Did you pay royalties for MAPs that were picked up by the buyer in 2071?*	-	Yes
		No
		No MAPs were picked up by a buyer
Did you pay royalties for MAPs you delivered to the buyer in 2071?*	-	Yes
		No
Types of rent-seeking encountered for MAPs picked up from the seller (in 2071)?*	This question is about rent-seeking encountered between the point of purchase and your shop - select multiple if applicable	Rent-seeking from forest staff
		Rent-seeking from police officers
		Other rent-seeking
		No rent-seeking encountered
Total annual cost of each type of rent-seeking encountered for MAPs picked up from the seller (in 2071)? (Question will be repeated for each type of rent-seeking selected in the question: "Types of rent-seeking encountered for MAPs you picked up from the seller (in 2071)?")*	Costs incurred due to rent-seeking encountered between the point of purchase and your shop, in Nepalese Rupee	1-20000 Nepalese Rupee
Types of rent-seeking encountered for MAPs you delivered to the buyer (in 2071)?*		Rent-seeking from forest staff
		Rent-seeking from police officers

Wording of question	Hint	Choices
	This question is about rent-seeking encountered between your shop and the point of sale - select multiple if applicable	Other rent-seeking No rent-seeking encountered
Total annual cost of each type of rent-seeking encountered for MAPs you delivered to the buyer (in 2071)? (Question will be repeated for each type of rent-seeking selected in the question: "Types of rent-seeking encountered for MAPs you delivered to the buyer (in 2071)?")*	Costs incurred due to rent-seeking encountered between your shop and the point of sale, in Nepalese Rupee	1-20000 Nepalese Rupee
Did you have any other costs associated with purchasing or selling MAPs in 2071?	-	Yes No
Specify "other" costs associated with purchasing or selling MAPs in 2071*	-	-
The interview has been completed - thank the respondent for his time and participation	-	-
<b>Section F: Enumerators comments</b>	-	-
How reliable is the information generally provided by this respondent?	How reliable is the information generally provided by this respondent?	Poor Reasonably reliable Very reliable
Any comments or additional information about the interview?	Any comments or additional information about the interview?	-

\* Appearance of section, question or answer choices is conditional upon answer(s) to previous question(s)

### 3.3 Central wholesaler survey (quantitative part)

Wording of question	Hint	Choices
Welcome to the "Central Wholesalers" questionnaire	ENSURE THAT WE CAN DISTINGUISH INFORMATION ABOUT MAPS ORIGINATING IN NEPAL AND MAPS THAT WHERE IMPORTED TO NEPAL! Central wholesalers are based in Nepal and bulk up MAPs, purchased from district traders; average catchment area 2-6 districts. Central wholesalers sell to regional traders, located outside Nepal (China, India) or to Nepalese processors.	-
<b>Section A: Introduction</b>	-	-
Aim of research project: Increase production and sustainability of supply of medicinal plants through better management/cultivation - i.e. necessary to know trade and important products; transiting to green growth.	-	-
Respondent's consent to participate in the interview has been obtained	-	-
Name of the interviewer?	-	Dipesh (ID 1-999) Arjun (ID 1000-1999) He Jun (ID 2000-2999) Kirti Nepal (ID 3000-3999) Research Assistant (ID 4000-4999)
Interview number (ID)?*	-	Restricted value (conditional upon answer to question "Name of the interviewer?")
Date of the interview?	Required format: yyyy-mm-dd	-
District where the interview takes place?	-	75 districts of Nepal <sup>4</sup>
Record interview location (GPS)	-	-
<b>Section B: General information</b>	-	-
Name of the respondent?	-	-
Is the respondent the owner of the wholesaler firm?	-	Yes No
Name of wholesaler's firm (if any)?	-	-

Wording of question	Hint	Choices
Year of firm's establishment?	Select as NEPALESE YEAR	Nepalese year between 2020 and 2071
Type of firm (wholesaler type)?	Wholesaler types: 1. Specialist central wholesalers are located in Nepal, average catchment area of 2-6 districts. Trading exclusively in MAPs. Rare; 2. Generalist central wholesalers are located in Nepal, average catchment area 2-6 districts. Trading a number of items besides MAPs. Common.	Specialist Generalist
Which other main products did you trade in 2071?*	-	Food Beverages Tobacco Crude materials (inedible) Mineral fuels, lubricants and related materials Soaps and cosmetics Clothes and shoes Machinery Other
Specify "other" product traded (in 2071)?*	-	-
Share of MAP trade (in %) in total annual business turnover (in 2071)?*	Enter percentage as value between 1 and 100	1-100 percent
Wholesaler's address?	Enter information that allows us to relocate and contact the trader e.g. VDC, road (telephone number and email address will be obtained in the next two questions)	-
Wholesaler's telephone number?	-	-
Wholesaler's email address (if any)?	-	-
Number of permanent employees of the firm?	The owner of the business and members of his household do not count as employees	0-50 employees
Number of temporary (seasonal) employees of the firm?	The owner of the business and members of his household do not count as employees	0-50 employees
<b>Section C: Socio-economic profile</b>	-	-
How old are you?		18-80 years
Sex of the respondent?		Male Female
Which ethnic group/caste do you belong to?		101 castes <sup>2</sup> , unidentified Dalit, unidentified caste

Wording of question	Hint	Choices
Which is the highest level of education that you have completed?	Select highest level completed	Beginners Primary (1-5) Lower Secondary (6-8) Secondary (9-10) S.L.C. and Equivalent Intermediate and Equivalent Graduate and Equivalent Post Graduate Equivalent and Above Non-formal education Level not stated
For how many years have you been trading MAPs?	In years: Select "1" for experience up to one (the current) year, "2" for experience between one and two years, et cetera	1-60 years
Wholesaler's estimate of number of traders selling to him (in 2071)?	-	1-1500 traders
<b>Section D: Volume and value of individual MAPs traded by the wholesaler in 2071</b>	-	-
This is the start of the repeat-loop for MAP products originating from Nepal. ENSURE THAT ALL INFORMATION PROVIDED IN THIS REPEAT-LOOP RELATES TO MAPS ORIGINATING FROM NEPAL. Information about MAP imports will be obtained in a separate repeat-loop. Only include in this section MAP products, originating from Nepal, OF WHICH HE SOLD AT LEAST 1000 kg in 2071.	-	-
Select a MAP product, originating from Nepal, that was traded by the respondent in 2071 (first MAP product on your list)	-	46 MAP products <sup>3</sup> , other
Specify "other" MAP product, originating from Nepal, traded by the respondent in 2071*	I.e. a MAP product not included in the drop-down choices list	-
Trade unit?	-	Kg Pieces
Total volume of this MAP product you purchased from Nepal in 2071?	In trade unit	1000000 trade units
Share (%) of the total volume you purchased of this MAP, which you bought directly from harvesters (in	Enter percentage as value between 0 and 100	0-100 percent

Wording of question	Hint	Choices
2071)? (Then asked for share from each of the 15 districts)		
Share (%) of the total volume you purchased of this MAP in 2071, which is still in stock (i.e. the share that has not been sold yet)?	Enter percentage as value between 0 and 100	0-100 percent
For which share (in %), of the total volume of this MAP product you purchased in 2071, did you offer an advance payment?	Enter percentage as value between 0 and 100	0-100 percent
Did you purchase the entire trade volume of this MAP at your shop (in 2071)?	-	Yes No
Share (%) of this MAP's trade volume, that you picked up from the seller (2071)?*	Enter percentage as value between 1 and 100	1-100 percent
Most common purchase price in 2071?	In Nepalese Rupee per trade unit	1-100000 Nepalese Rupee
Has the price of this MAP varied throughout the year 2071?	-	Yes No
Highest purchase price in 2071?*	In Nepalese Rupee per trade unit	1-100000 Nepalese Rupee and greater or equal to the most common purchase price
Lowest purchase price in 2071?*	In Nepalese Rupee per trade unit	1-100000 Nepalese Rupee and smaller or equal to the most common purchase price
Have you been trading this MAP for five or more years?	-	Yes No
Have you had an increase or a decrease in trade of this MAP through time?		Increased, decreased, remained the same
Was all you sold of this MAP picked up by the buyer, at your shop (in 2071)?	-	Yes No
Share (%) of this MAP's sales volume, that you delivered to the buyer (in 2071)?*	Enter percentage as value between 1 and 100	1-100 percent
To which destination did you sell this MAP in 2071?	-	Nepal India China Other country in Asia (countries other than Nepal, India or China)



Wording of question	Hint	Choices
		Europe
		USA
		Other destination
To which cities/countries in the selected destinations, did you sell this MAP in 2071? (Question will be repeated for each destination selected in the question: "To which destination did you sell this MAP in 2071?")*	-	Selected cities/countries for each destination <sup>5</sup> , other
Which share (in %), of your total trade volume of this MAP, did you sell in this destination (in 2071)? (Question will be repeated for each destination selected in the question: "To which destination did you sell this MAP in 2071?")*	Enter percentage as value between 1 and 100	1-100 percent
Did you import any MAP products (which are on our list of 46 MAP products) in 2071?	-	Yes
		No
<b>Section E: MAP product import *</b>	-	-
This is the start of the repeat-loop for MAP products imported to Nepal.	-	-
Select a MAP product, imported by the respondent, in 2071 (first MAP product on your list)	-	46 MAP products <sup>3</sup> , other
Specify "other" MAP product, imported to Nepal, that was traded by the respondent in 2071*	-	-
Total volume of this MAP product you purchased and imported to Nepal, in 2071?	In trade unit	1000000 trade units
For which share (in %), of the total import volume of this MAP product in 2071, did you offer an advance payment?	Enter percentage as value between 0 and 100	0-100 percent
Did you purchase all you imported of this MAP, at your shop (in 2071)?	-	Yes
		No
Share (%) of total import volume of this MAP, which you picked up from the seller (in 2071)?*	Enter percentage as value between 1 and 100	1-100 percent
Most common purchase price in 2071?	In Nepalese Rupee per trade unit	1-100000 Nepalese Rupee
Has the price of this MAP varied throughout the year 2071?	-	Yes
		No
Highest purchase price in 2071?*	In Nepalese Rupee per trade unit	1- 100000 Nepalese Rupee and greater or equal to the most common purchase price

Wording of question	Hint	Choices
Months of highest purchase price in 2071?*		Nepalese months
Lowest purchase price in 2071?*	In Nepalese Rupee per trade unit	1- 100000 Nepalese Rupee and smaller or equal to the most common purchase price
Months of lowest purchase price in 2071?*	-	Nepalese months
Have you been importing this MAP for five or more years?	-	Yes No
Have you had an increase or a decrease in import of this MAP through time?		Increased, decreased, remained the same
From which countries did you import this MAP in 2071?	-	India China Other
Specify "other" countries from which you imported this MAP in 2071*	-	-
Which share (in %), of your total import volume of this MAP, did you purchase from the selected country (in 2071)? (Question will be repeated for each country selected in the question: "From which countries did you import this MAP in 2071?")*	Enter percentage as value between 1 and 100	1-100 percent
<b>Section F: General costs</b>	-	-
Did the respondent purchase all MAP products at his shop (in 2071)?	Attention! You already know the answer to this question, from the repeat loop, about individual MAP products!	Yes No
Were all MAPs, the respondent sold in 2071, picked up by the buyer at the respondent's shop?	Attention! You already know the answer to this question, from the repeat loop, about individual MAP products!	Yes No
Rent of MAP store?	Nepalese Rupee per month (If the shop is owned by the trader, we assume that there is a market for renting and we use rent estimates, for owned stores.)	0-100000 Nepalese Rupee
Average storage time for MAP products?	In number of months	0-36 months
Weight loss during storage (in percent)?	Enter percentage as value between 1 and 20	0-20 percent
Transport costs for MAPs you picked up from the seller (in 2071)?*	Costs incurred for MAP transport, from the point of purchase to your shop, IN NEPALESE RUPEE PER TRADE UNIT	0-20 Nepalese Rupee

Wording of question	Hint	Choices
Transport costs for MAPs you delivered to the buyer (in 2071)?*	Costs incurred for MAP transport, from your shop to the point of sale, IN NEPALESE RUPEE PER TRADE UNIT	0-20 Nepalese Rupee
Did you pay tax for MAPs you picked up from the seller (in 2071)?*	-	Yes No
Specify which taxes you paid for MAPs you picked up from the seller (in 2071)*	Specify the name of the tax and the total amount paid, in Nepalese Rupee	-
Did you pay royalties for MAPs you picked up from the seller in 2071?*	-	Yes No
Did you pay tax for MAPs you delivered to the buyer 2071?*	-	Yes No
Specify which taxes you paid for MAPs you delivered to the buyer in 2071*	-	Specify the name of the tax and the total amount paid, in Nepalese Rupee
Did you pay royalties for MAPs that you delivered to the buyer in 2071?*	-	Yes No
Types of rent-seeking encountered for MAPs you picked up from the seller (in 2071)?*	This question is about rent-seeking encountered between the point of purchase and your shop - select multiple if applicable	Rent-seeking from forest staff Rent-seeking from Nepalese police officers Rent-seeking from Indian police officers Rent-seeking from Nepalese custom officials Rent-seeking from Indian custom officials Other rent-seeking No rent-seeking encountered
Total annual cost of rent-seeking for each type of rent-seeking encountered for MAPs you picked up from the seller (in 2071).*	Costs incurred due to rent-seeking encountered between the point of purchase and your shop, in trade currency	1-300000 Nepalese Rupee
Types of rent-seeking encountered for MAPs you delivered to the buyer (in 2071)?*	This question is about rent-seeking encountered between your shop and the point of sale - select multiple if applicable	Rent-seeking from forest staff Rent-seeking from Nepalese police officers Rent-seeking from Indian police officers Rent-seeking from Nepalese custom officials Rent-seeking from Indian custom officials Other rent-seeking No rent-seeking encountered
Total annual cost of rent-seeking for each type of rent-seeking encountered for MAPs you delivered to the buyer (in 2071).*	Costs incurred due to rent-seeking encountered between your shop and the point of sale, in Nepalese Rupee	1-300000 NR

Wording of question	Hint	Choices
Did you pay customs duties for MAPs you traded in 2071?	-	Yes No
Total annual costs of customs duties for MAPs traded in 2071?*	In Nepalese Rupee	0-100000 Nepalese Rupee
Did you pay quarantine fees for MAPs you traded in 2071?	-	Yes No
Total annual costs of quarantine fees for MAPs traded in 2071?*	In Nepalese Rupee	0-100000 Nepalese Rupee
Did you have any other costs associated with purchasing or selling MAPs in 2071?	-	Yes No
Specify "other" costs associated with purchasing or selling MAPs in 2071*	Specify each type of "other" cost and the total annual costs incurred for each	-
The interview has been completed - thank the respondent for his time and participation	-	-
<b>G: Enumerators comments</b>	-	-
How reliable is the information generally provided by this respondent?	-	Poor Reasonably reliable Very reliable
Any comments or additional information about the interview?	-	-

\* Appearance of section, question or answer choices is conditional upon answer(s) to previous question(s)

### 3.4 Regional wholesaler survey (quantitative part)

Wording of question	Hint	Choices
Welcome to the "Regional Wholesalers" questionnaire	-	-
<b>Section A: Introduction</b>	-	-
Confirm that the respondent qualifies as a regional wholesaler: Actors who usually buy MAPs from central wholesalers (bulking up) and sell to intermediaries (processors) or retailers (bulk breaking). Their businesses are located in India or China.	-	-
Briefly explain the aim of study: a) increase production, quality, and sustainability of supply of MAPs from Nepal Himalayas through better management/cultivation - this requires knowledge of product trade; b) improve short and long term supply situation by enhancing communication between Nepalese traders and regional wholesalers (directory); and c) transiting to green growth - "Jaributi For All, Forever", also in the future.	-	-
Respondent's consent to participate in the interview has been obtained	-	-
Name of the interviewer?	-	<div>Dipesh (ID 1-999)</div> <div>Arjun (ID 1000-1999)</div> <div>He Jun (ID 2000-2999)</div> <div>Kirti Nepal (ID 3000-3999)</div> <div>Research Assistant (ID 4000-4999)</div>
Interview number (ID)?*	-	Restricted value (conditional upon answer to question "Name of the interviewer?")
Date of the interview?	Required format: yyyy-mm-dd	-
Country where the interview takes place?	-	<div>India</div> <div>China</div> <div>Nepal</div>
City in India/China/Nepal where the interview takes place?*	-	<div>Delhi</div> <div>Tanakpur</div> <div>Dingri</div> <div>Nyingchi</div> <div>Kannauj</div> <div>Amdo</div> <div>Guanjhou</div> <div>Pome</div>

Wording of question	Hint	Choices			
		Kanpur	Beijing	Gyantse	Tsetang
		Kolkata	Burang	Hongkong	Xigaze
		Lucknow	Chamdo	Lhasa	Zhangmu
		Siliguri	Damshung	Nagqu	Haridwar
		Nepalgunj	Kathmandu	Biratnagar	Birgunj
		Janakpur	Dhangadi	Other	
Specify "other" city in India/China/Nepal, where the interview takes place*	-	-			
Record interview location (GPS)	-	-			
<b>Section B: General information</b>	-	-			
Name of the respondent?	-	-			
Is the respondent the owner of the wholesaler firm?	-	-			
Name of wholesaler's firm (if any)?	-	-			
Type of firm (wholesaler type)?	<u>Wholesaler types:</u> 1) Commission: Located outside Nepal, national level catchment area. Facilitates fee-based sale of central wholesalers' products; 2) Ordinary: Located outside Nepal, national level catchment area. Buys products directly from central wholesalers; 3) Combined: Located outside Nepal, national level catchment area. Acts as a combination of at least two of the following: ordinary wholesaler, commission wholesaler, wholesaler vertically integrated with production companies and retailers.	Commission			
		Ordinary			
		Combined			
Which type of combined wholesaler is the respondent?*	Select applicable combination of ordinary wholesaler, commission wholesaler and wholesaler vertically integrated with production companies and retailers.	Ordinary and commission wholesaler			
		Processor and commission wholesaler			
		Retailer and commission agent			
		Processor, ordinary and commission wholesaler			
Did you trade exclusively in MAPs (in 2071)?	-	Yes			
		No			
Which other main products did you trade (in 2071)?*	-	Food			
		Beverages			
		Tobacco			
		Crude materials (inedible)			

Wording of question	Hint	Choices
		Mineral fuels, lubricants and related materials
		Soaps and cosmetics
		Clothes and shoes
		Machinery
		Other
Specify "other" product traded (in 2071)?*	-	-
Share of MAP trade (in %) in total annual business turnover (in 2071)?*	Enter percentage as value between 1 and 100	1-100 percent
Year of firm's establishment?	Select as NEPALESE YEAR	Nepalese year between 2020-2071
Wholesaler's address?	Enter information that allows us to relocate and contact the trader (telephone number and email address will be obtained in the next two questions).	-
Wholesaler's telephone number?	-	-
Wholesaler's email address?	-	-
Number of permanent employees of the firm?	The owner of the business and members of his household do not count as employees	0-500,000 employees
Number of temporary (seasonal) employees of the firm?	The owner of the business and members of his household do not count as employees	0-500,000 employees
<b>Section C: Socio-economic profile of company owner</b>	-	-
How old are you?	-	18-80 years
Sex of the respondent?	-	Male
		Female
Which is the level of education you have completed?	Select highest level completed	Beginners
		Primary (1-5)
		Lower Secondary (6-8)
		Secondary (9-10)
		S.L.C. and Equivalent
		Intermediate and Equivalent
		Graduate and Equivalent
		Post Graduate Equivalent and Above
		Non-formal education
		Level not stated

Wording of question	Hint	Choices
For how many years have you been trading MAPs?	In years: Select "1" for experience up to one (the current) year, "2" for experience between one and two years, et cetera	1-60 years
Regional wholesaler's estimate, of number of central wholesalers selling MAPs originating from Nepal to him/her (in 2071)?	-	1-400 central wholesalers
<b>Section D: Volume, value and end-products derived from Nepali MAPs</b>	-	-
We are only interested in collecting information about MAPs purchased in Nepal	-	-
This is the start of the repeat-loop, about the volume, value and end-products derived from MAPs purchased in Nepal.	-	-
Select a MAP product that was traded by the respondent in 2071	-	46 MAP products <sup>3</sup> , other
Specify name of "other" product traded by the respondent in 2071*	-	-
Total volume of this MAP product that you purchased from Nepal (in 2071)?	In trade unit	1-10000000
Did you purchase the entire trade volume of this MAP at your shop (in 2071)?	-	Yes No
Share (%) of this MAP's trade volume, that you picked up from the seller (2071)?*	Enter percentage as value between 1 and 100	1-100 percent
Trade currency?	-	Nepalese Rupee Indian Rupee Yuan Other
Most common purchase price (in 2071)?	In trade currency per trade unit	1-3000000 trade currency units
Highest purchase price (in 2071)?	In trade currency per trade unit	1-3000000 and greater or equal to the most common purchase price
Lowest purchase price in 2071?	In trade currency per trade unit	1-3000000 and smaller or equal to the most common purchase price
Have you been trading this MAP for five or more years?	-	Yes No



Wording of question	Hint	Choices
Has your import of this MAP from Nepal increased or decreased in the past 5 years?	-	Increased Decreased Remained the same
<b>Section E: Origin and quality requirements for prioritised MAP products from Nepal</b>	-	-
We are only interested in collecting information about products purchased from Nepal by the respondent in 2071.	-	-
This is the start of the repeat-loop, about origin and quality requirements, of the prioritised MAP products from Nepal.	-	-
Select a prioritised MAP product from Nepal, traded by the respondent in 2071	-	Kutki, Chiraito, Satuwa, Timur, Guchi chyaw, Yarsagumba, Bish
Countries from which you sourced this MAP product in 2071?	-	Nepal India China Bhutan Pakistan Other
Specify "other" country of origin, of this MAP product*	-	-
Share of supply (in %) of this MAP product that you sourced from Nepal (in 2071)?	Enter percentage as value between 1 and 100	1-100 percent
Share of supply (in %) of this MAP product that you sourced from the selected country (in 2071)? (Question will be repeated for each country selected in the question: "Countries (other than Nepal) from which you sourced this MAP product in 2071?")*	Enter percentage as value between 1 and 100	1-100 percent
Your preferred origin (country) of this MAP product?	-	Nepal India China Bhutan No preferred supply country Other
Specify "other" preferred origin (country)*	-	-
	-	Increase

Wording of question	Hint	Choices
How has supply of this MAP product, from Nepal, changed in the past 15 years?		Decrease Remained the same
<b>Section F: Destination of consumer survey MAP products</b>	-	-
We are only interested in collecting information about products traded by the respondent in 2071.	-	-
This is the start of the repeat-loop, about the destination, of the top-three MAP products.	-	-
Select a consumer survey MAP product, traded by the respondent (in 2071).	-	Kutki, Bish, Yarsagumba
To which countries did you sell this MAP product (in 2071)?	-	Nepal India China Pakistan Other
Specify "other" countries, to which you sold this MAP product (in 2071)*	-	-
What are the two largest companies that you sold this product to (in 2071)? Please provide:  Name of company Address Email Telephone no. Name of contact person	-	-
<b>Section G: Costs of MAPs from Nepal</b>	-	-
Did the respondent purchase all MAP products from Nepal exclusively at his shop (in 2071)?	Attention! You already know the answer to this question, from the repeat loop about individual MAP products!	Yes No
What is the average cost of transporting one truckload of MAP products from Nepal to your shop?	-	10000-1000000
Did you pay taxes for MAPs from Nepal you purchased at your shop in 2071?*	-	Yes No

Wording of question	Hint	Choices
Specify which taxes you paid for MAPs from Nepal you purchased at your shop in 2071*	Specify the name of the tax and the total amount paid, in trade currency	-
Did you pay tax for MAPs from Nepal you picked up from the seller (in 2071)?*	-	-
Specify which taxes you paid for MAPs from Nepal you picked up from the seller (in 2071)*	Specify the name of the tax and the total amount paid, in trade currency	-
What is the average amount of rent-seeking per kg of yarsagumba?	In trade currency unit	0-1000000
How much do you pay (per truck) in rent seeking to Nepalese police officers?	In trade currency unit	0-50000
How much do you pay (per truck) in rent seeking to Nepalese custom officials?	In trade currency unit	0-50000
How much do you pay (per truck) in rent seeking to Indian custom officials?	In trade currency unit	0-50000
How much do you pay (per truck) in rent seeking to Indian police officers?	In trade currency unit	0-50000
How much do you pay (per truck) in rent seeking to Indian forest staff?	In trade currency unit	0-50000
How much do you pay (per truck) in other rent seeking?	In trade currency unit	0-50000
The interview has been completed - thank the respondent for his time and participation	-	-
<b>Section H: Enumerators comments</b>	-	-
How reliable is the information generally provided by this respondent?	-	Poor
		Reasonably reliable
		Very reliable
Any comments or additional information about the interview?	-	-

\* Appearance of section, question or answer choices is conditional upon answer(s) to previous question(s)

### 3.4.1 Regional wholesaler survey in Chinese (quantitative part)

问题	提示	选项
欢迎参加“区域批发商”问卷调查	-	-
<b>第一部分：简介</b>	-	-
确定受访者是符合要求的二级/区域批发商：标准为从总批发商那进货然后卖给零售商或其他中间商或药材加工者，他们的经营范围在境内。	-	-
研究目的简介：一）获取药材贸易的相关信息后，可以通过更好的管理和培养来提高尼泊尔喜马拉雅地区输出药材的产量，质量以及其供给的可持续性；二）通过增进尼泊尔药商同西藏境内区域批发商之间的交流沟通以改善长短期的药材供应状况；三）促进绿色可持续增长	-	-
确认受访者愿意参与此问卷调查	-	-
访谈人姓名	-	
访谈序号		-
访谈日期	年月日	-

访谈国家	-	印度			
		中国			
		尼泊尔			
访谈具体地点（城市）	-			定日	林芝
			安多	吉隆	波密
			北京	江孜	泽当
			普兰	香港	日喀则
			昌都	拉萨	樟木
			当雄	那曲	其他
地点实际定位（GPS）	-	-			
<b>第二部分：基本信息</b>	-	-			
受访者姓名	-	-			
受访者是否为老板（二级批发商）					
批发商商铺或公司名称（如果有的话）	-	-			
批发商类型	<u>批发商类型：</u>	代销			
		普通批发			

	<p>1) 代销：从总批发商那代销药材·收取销售提成和其他相应费用;</p> <p>2) 普通批发：从总批发商处直接进货独立销售;</p> <p>3) 综合型：有以下至少两种的组合：普通批发商·代销，批发商与生产公司和零售商垂直整合。</p>	综合
综合型批发商的类型	请选择右表组合	普通批发和代销商
		药材加工和代销商
		零售商和代销商
		加工，普通批发和代销商
是否只经营药材	-	<p>-是</p> <p>-不是</p>
若不是，您从事的其他主要贸易有哪些？	-	食品
		饮料
		烟草
		非食用油料

		矿物燃料和润滑油
		肥皂，化妆品
		鞋服鞋帽
		机械设备，交通运输及设备
		其他
如果是“其他”贸易，请说明		
药材贸易占一年总营业额的百分比		1-100%
公司/商铺成立年份	-	-
地址	请输入有效地址信息以便回访	-
电话号码？	-	-
电子邮件（如果有的话）？	-	-
公司/商铺的全职员工数目？	-老板及家人不算	
公司/商铺的临时（季节性）工人数？	-老板及家人不算	
<b>第三部分：老板的基本概况</b>	-	-
年龄	-	
	-	男

受访者性别？		女
民族	-	
教育程度	必须是完成的最高学历，如只读到初中2 年级，则只算小学毕业	识字
		小学
		初中
		高中/职高/中专
		预科
		专科
		本科
		研究生及以上
		非学校正式教育
		无法说明
您从事药材生意多少年了？	向上取整数，如1到2年之间统一写2年	
上一年度从多少个尼泊尔批发商那进货	-	
第四部分：从尼泊尔进口的进货量，总价以及成品	-	-



只收集从尼泊尔进口的药材信息	-	-
从尼泊尔进口的药材进货量·总价以及成品，针对不同的药材开始重复循环	-	-
选择一种你最常交易的药材	-此处应该有清单	
若选“其他”，请说明药材名字		
上一年度从尼泊尔批发商进口这种药材的总进货量	说明单位进货情况	
您是否只经营这一种药材？		是
		不是
若不是，那这种药材进货量大概占所有药材百分之多少？		
交易货币	-	尼泊尔卢比
		印度卢比
		人民币
		其他
过去一年普遍的进口采购价格	按单位进货量价格	
过去一年最高采购价格	按单位进货量价格	
过去一年最低采购价格	按单位进货量价格	

从事这种药材生意满5年了么？	-	有
		没有
在过去5年中从尼泊尔进口这种药材的总量是增加还是减少了		增加  减少  保持不变
<b>第五部分：从尼泊尔优先采购药材的原产地和质量要求</b>	-	-
只收集上一年从尼泊尔采购的药材信息	-	-
收集尼泊尔优先进口的药材的原产地和质量要求，针对不同的药材开始重复循环	-	-
选择一种您从尼泊尔最优先采购的药材	-	
您还从其他哪些国家进口这种药材呢？	-	尼泊尔
		印度
		中国
		不丹
		巴基斯坦
		其他

若选“其他”国家，请说明		
从尼泊尔进口的量所占百分比		
从其他国家进口量百分比	输入1和100之间的百分比值	1-100%
您最愿意从哪个国家（原产地）采购？	-	尼泊尔
		印度
		中国
		不丹
		没有特别偏好
		其他
若选“其他”国家，请说明		
在过去15年里，尼泊尔对这种药材的供应量是增加还是减少了？	-	增加
		减少
		保持不变
第六部分：药材消费去向	-	-
只收集上一年关于产品贸易方面的信息	-	-

关于前三名药材的销售目的地，针对不同的药材开始重复循环	-	-
选择第一种您卖得好的药材	-	
您一般卖到哪去？	-	尼泊尔
		印度
		中国
		不丹
		其他
若选“其他”国家，请说明		
您上一年度卖得最好的两个客户  名称，地址，电话，邮件，联系人	-	-
<b>第七部分：从尼泊尔采购药材成本</b>	-	-
受访者是否只从尼泊尔采购药材	你其实已经知道这个问题的答案	是
		不是
一车药材从尼泊尔到你店铺的平均运费大概是多少？	用交易货币	-
		交

您买药材得交税么？		不交
交税的话请说明您所交税的种类		
除正常税费外，进一公斤虫草大概需要多少其他额外的费用？	用交易货币	
一车药材大概需要多少钱用于打点尼泊尔警察？	用交易货币	
一车药材大概需要多少钱用于打点尼泊尔海关？	用交易货币	
一车药材大概需要多少钱用于打点中国警察？	用交易货币	
一车药材大概需要多少钱用于打点中国海关？	用交易货币	
一车药材大概需要多少钱用于打点中国林业人员？	用交易货币	
一车药材大概需要多少钱用于打点其他人员？	用交易货币	
受访者回答到此结束，非常感谢		
<b>第八部分：评论</b>	-	-
此份问卷信息是否可信？	-	不太可信
		基本可信
		非常可信
关于问卷访谈的其他建议	-	-

### 3.5 Processor survey (quantitative part)

Wording of question	Hint	Choices
Welcome to the “Processors” questionnaire	CONFIRM THAT THE PROCESSOR USES RAW-MATERIALS FROM OUR LIST OF 46 MAPS	-
<b>Section A: Introduction</b>	-	-
Aim of the research project: Increase production and sustainability of supply of MAPs from Nepal through better management/cultivation - i.e. necessary to know trade and important products	-	-
Respondent's consent to participate in the interview has been obtained	-	-
Name of the interviewer?	-	Dipesh (ID 1-999) Arjun (ID 1000-1999) He Jun (ID 2000-2999) Kirti Nepal (ID 3000-3999) Research Assistant (ID 4000-4999)
Interview number (ID)?*	-	Restricted value (conditional upon answer to question “Name of the interviewer?”)
Date of the interview?	Required format: yyyy-mm-dd	-
District where the interview takes place?	-	75 districts of Nepal <sup>4</sup>
Record interview location (GPS)	-	-
<b>Section B: General information</b>	-	-
Name of the respondent?	-	-
Is the respondent the owner of the processor firm?	-	Yes No
Name of processor's firm (if any)?	-	-
Year of firm's establishment?	Select as NEPALESE YEAR	Nepalese year between 2020-2071
Type of firm (by ownership)?	-	State owned Privately owned Owned by a CFUG Owned by a multi-purpose cooperative
Processor's address?	Enter information that allows us to relocate and contact the processor e.g. VDC, road (telephone	-

Wording of question	Hint	Choices	
	number and email address will be obtained in the next two questions)		
Processor's telephone number?	-	-	
Processor's email address (if any)?	-	-	
Number of permanent employees of the firm?	The owner of the firm and members of his household do not count as employees	0-50 employees	
Number of temporary (seasonal) employees of the firm?	The owner of the firm and members of his household do not count as employees	0-100 employees	
Does this processor firm operate continuously or seasonally (only during the MAP season)?	-	Continuously	
		Seasonally	
<b>Section C: Socio-economic profile</b>	-	-	
How old are you?	-	18-80 years	
Sex of the respondent?	-	Male	
		Female	
Which ethnic group/caste do you belong to?	-	101 castes <sup>2</sup> , unidentified Dalit, unidentified caste	
Which is the highest level of education that you have completed?	Select highest level completed	Beginners	
		Primary (1-5)	
		Lower Secondary (6-8)	
		Secondary (9-10)	
		S.L.C. and Equivalent	
		Intermediate and Equivalent	
		Graduate and Equivalent	
		Post Graduate Equivalent and Above	
		Non-formal education	
		Level not stated	
For how many years have you been processing MAP raw-materials?	In years: Select "1" for experience up to one (the current) year, "2" for experience between one and two years, et cetera	1-60 years	
Profitability of this firm in 2071?	-	Firm made a profit	
		Firm made a loss	
		Firm broke even	
		Respondent is unwilling to answer	
Select an end-product that you processed, using MAP raw-materials from Nepal (in 2071)	-	Ayurvedic medicine	Herbal/traditional medicine
		Cosmetic	Incense

Wording of question	Hint	Choices	
		Dyes	Resinoids
		Essential oil	Soap
		External application (e.g. massage oil)	Unprocessed herb
		Food additives	Vegetable oil
		Food/tea	Other
Specify "other" end-product that you processed, using MAP raw-materials from Nepal (in 2071)*	I.e. an end-product not included in the drop-down choices list	-	
What is the share (in %) of your annual gross income which comes from the end-products mentioned above?		1-100%	
<b>Section D: MAP raw material loop</b>	-	-	
This is the start of the MAP raw-material repeat-loop.	-	-	
Select a MAP raw-material, purchased and processed by the firm (in 2071)	-	46 MAP products <sup>3</sup> , other	
Specify "other" MAP raw-material purchased by the respondent (in 2071)*	I.e. a MAP raw-material not included in the drop-down choices list	-	
Trade unit	-	Kg	
		Pieces	
Total volume of this raw-material you purchased (in 2071)?	In trade unit (kg or pieces)	1-100000 trade units	
Share (in %) of this raw-material you purchased in Nepal (in 2071)?	Enter percentage as value between 1 and 100.	1-100 percent	
For which share (in %), of the total volume of this raw-material you purchased in 2071, did you offer an advance payment?	Enter percentage as value between 0 and 100	0-100 percent	
Most common purchase price in 2071?	In Nepalese Rupee per trade unit	1-100000 Nepalese Rupee	
Have you been processing this MAP for five or more years?	-	Yes	
		No	
Total volume of this raw-material you purchased five years ago?*	In trade unit (kg or pieces)	1-100000 trade units	
From which suppliers did you purchase this MAP raw-material in 2071?	1. Collectors: Gather MAPs growing in the wild e.g. from community land, forests or alpine meadows; 2. Domesticators: Gather MAPs from agricultural land, where they have been cultivated actively, in	Collector	
		Domesticator	



Wording of question	Hint	Choices
	<p>smallholder plantations or by planting desired species, between fields. 3. Itinerant sub-local traders: Itinerant sub-local traders travel from village to village and from district to district, usually beyond the road network. They are not common and usually focus on purchasing products of very high value; 4. Permanent sub-local traders: Permanent sub-local traders have a permanent presence in their catchment area e.g. a shop or just their own house; 5. Specialist local traders: Specialist local traders deal exclusively in medicinal plants; 6. Generalist local trader: Generalist local traders deal with medicinal plants as part of a more diversified business; 7. Multi-purpose cooperative; 8. Own production</p>	Itinerant sub-local trader
		Permanent sub-local trader
		Specialist local trader
		Generalist local trader
		Central wholesaler
		Regional wholesaler
		Multi-purpose cooperative
		Own production: This MAP raw-material was not purchased from a supplier, but collected or cultivated by the processor firm
Which share (in %) of this MAP raw-material did you purchase from the selected supplier? (Question will be repeated for each supplier (including own production) selected in the question: "From which suppliers did you purchase this MAP raw-material in 2071?")*	Enter percentage as value between 1 and 100	1-100 percent
From how many districts did you source this MAP raw-material in 2071?	-	From one main supply district
		More than one main supply district/from outside Nepal
Select your main supply district for this MAP-raw material in 2071*	-	75 districts of Nepal <sup>4</sup>
Select your main supply region(s)/country for this MAP-raw material in 2071*	-	Eastern Development Region
		Central Development Region
		Western Development Region
		Mid-Western Development Region
		Far-Western Development Region
		India
		China
		Other country

Wording of question	Hint	Choices
Specify "other" supply country for this MAP raw-material*	-	-
Select your main supply districts for this MAP raw-material in the selected Development Region (in 2071)*	-	Districts of selected Nepalese Development Region
Section E: Purchasing countries		
In which countries did you sell your products in 2071?		Nepal India China Bhutan Other
Specify "other" country purchasing products (in 2071)		-
Which share of your total sales (%) was sold in each country (in 2071)? (This question probes for all the countries mentioned in the question above)		0-1000000 Nr/yr
Section F: Enumerators comments	-	-
How reliable is the information generally provided by this respondent?	-	Poor Reasonably reliable Very reliable
Any comments or additional information about the interview?	-	-

\* Appearance of section, question or answer choices is conditional upon answer(s) to previous question(s)

### 3.6 Tibet-border trade survey (quantitative part)

Wording of question	Hint	Choices
Welcome to the "Tibet-Border Trade Survey" questionnaire	COLLECT ONLY INFORMATION ON MAPS BEING SOLD TO TIBET!!!	-
<b>Section A: Interview background information</b>	-	-
Aim of research project: Increase production and sustainability of supply of medicinal plants through better management/cultivation - for this we need to know about trade structure and processes, including important products.	-	-
Respondent's consent to participate in the interview has been obtained	-	-
Name of the interviewer?	-	Dipesh (ID 1-999) Arjun (ID 1000-1999) He Jun (ID 2000-2999) Kirti Nepal (ID 3000-3999) Research Assistant (ID 4000-4999)
Interview number (ID)?*	-	Restricted value (conditional upon answer to question "Name of the interviewer")
Date of the interview?	Required format: yyyy-mm-dd	-
District where the interview takes place?	-	10 Tibet-border districts <sup>6</sup>
Record interview location (GPS)	-	-
<b>Section B: Respondent background information</b>	-	-
How old are you?	-	15-80 years
Sex of the respondent?	-	Male Female
Which ethnic group/caste do you belong to?	-	101 castes <sup>2</sup> , unidentified Dalit, unidentified caste
Which is the highest level of education that you have completed?	Select highest level completed	Beginners Primary (1-5) Lower Secondary (6-8) Secondary (9-10) S.L.C. and Equivalent Intermediate and Equivalent Graduate and Equivalent

Wording of question	Hint	Choices
		Post Graduate Equivalent and Above
		Non-formal education
		Level not stated
Is the respondent a harvester or a trader?	-	Harvester
		Trader
<b>Questions for harvesters -&gt;&gt; start*</b>	-	-
In which district and VDC do you live?	-	10 Tibet-border districts and corresponding VDCs, remaining districts of Nepal (without VDCs)
For how many years have you been harvesting MAPs?	-	1-60 years
What is the sex of your head of household?	-	Male
		Female
How many adults (15 years and above) live in your household?	-	0-20 adults
How many children (below 15 years) live in your household?	-	0-20 children
Did adult females, in your household, harvest MAPs for sale in 2071?	-	Yes
		No
		Not applicable
Did adult males, in your household, harvest MAPs for sale in 2071?	-	Yes
		No
		Not applicable
Did girls (below 15 years old), in your household, harvest MAPs for sale in 2071?	-	Yes
		No
		Not applicable
Did boys (below 15 years old), in your household, harvest MAPs for sale in 2071?	-	Yes
		No
		Not applicable
What is the education level of your head of household?	Select highest level completed	Beginners
		Primary (1-5)
		Lower Secondary (6-8)
		Secondary (9-10)
		S.L.C. and Equivalent
		Intermediate and Equivalent
		Graduate and Equivalent
		Post Graduate Equivalent and Above

Wording of question	Hint	Choices
		Non-formal education
		Level not stated
How wealthy is your household, when compared to others in your village?	-	Below average wealth
		Around average wealth
		Above average wealth
What was your household's total annual cash income in 2071?	-	1-4000000 Nepalese Rupee
<b>Questions for harvesters -&gt;&gt; end</b>	-	-
<b>Questions for traders -&gt;&gt; start*</b>	-	-
Name of the respondent?	-	-
Is the respondent the owner of the trading business?	-	Yes
		No
Name of trading business (if any)?	-	-
Year in which the business was established?	Select as NEPALESE YEAR	Nepalese Year between 2020 and 2071
To which trader type does the respondent belong?	1. Itinerant sub-local trader: Itinerant sub-local traders travel from village to village and from district to district, usually beyond the road network. They are not common and usually focus on purchasing products of very high value; 2. Permanent sub-local trader: Permanent sub-local traders have a permanent presence in their catchment area e.g. a shop or just their own house; 3. Specialist local trader: Specialist local traders deal exclusively in medicinal plants; 4. Generalist local trader: Generalist local traders deal with medicinal plants as part of a more diversified business	Itinerant sub-local trader
		Permanent sub-local trader
		Specialist local trader
		Generalist local trader
Trader's address?	Write the name of the municipality/VDC (telephone number and email-address will be obtained in the next two questions)	-
Trader's telephone number	-	-
Traders email address?	If available	-
Do you trade exclusively in MAPs?	-	Yes
		No
Which other main products did you trade in 2071?*	-	Food
		Beverages
		Tobacco

Wording of question	Hint	Choices
		Crude materials (inedible)
		Mineral fuels, lubricants and related materials
		Soaps and cosmetics
		Clothes and shoes
		Machinery
		Other
Specify "other" product traded (in 2071)?*	-	-
Share of MAP trade (in %) in total annual business turnover in 2071?	Enter percentage as value between 1 and 100	1-100 percent
Number of permanent employees of the business?	The owner of the business and members of his household do not count as employees	0-50 employees
Number of temporary (seasonal) employees of the business?	The owner of the business and members of his household do not count as employees	0-50 employees
Trader's estimate of number of harvesters from the district that came to sell to him in 2071?	-	0-2000 harvesters
<b>Questions for traders -&gt;&gt; end</b>	-	-
<b>Section C (Harvesters): Harvesting background information</b>	-	-
This is the start of the repeat-loop for MAP products sold to Tibet.	-	-
Select a MAP product that the respondent sold to Tibet in 2071 (one of the MAP products on your list)	-	31 high altitude MAP products <sup>8</sup> , other
Specify "other" MAP product sold to Tibet by the respondent in 2071*	-	-
In which months did you harvest this MAP (in 2071)?	Select multiple months if applicable	Nepalese months
What was your mean of transportation, to reach your main harvesting site (in 2071)?	Select multiple if applicable	Bicycle
		Bull cart
		Bus
		Jeep
		Motorcycle
		Pack animal
		Tractor
		Truck
		Walk

Wording of question	Hint	Choices
Is the respondent a dedicated or opportunistic collector?	1. Dedicated collectors: MAP collection is undertaken as a specific main activity, e.g. in small groups travelling to remote areas with the primary purpose of collecting; 2. Opportunistic collectors: MAP collection is undertaken along with other activities, e.g. by high altitude herders.	Opportunistic
		Dedicated
How many days did you spend collecting this MAP (in 2071)?*	E.g. select "1" for up to one day, "2" for up to two days, et cetera	1-365 days
In what type of land was this MAP harvested (in 2071)?	Select multiple if applicable	Private land
		Community land
		Government land
Unit of sale for this MAP product?	-	Kg
		Pieces
Total volume of this MAP product you sold to Tibet in 2071?	In kg or pieces	1-10000 units
Have you been selling this MAP to Tibet for five or more years?	-	Yes
		No
Total volume of this MAP you sold to Tibet five years ago?*	In trade unit (kg or pieces)	1-10000 units
Total cash income from this MAP product in 2071?	In Nepalese Rupees	1-1000000 Nepalese Rupee
In which months was this MAP sold to Tibet (in 2071)?	Select multiple if applicable	Nepalese months
Where in Tibet was your buyer located (in 2071)?	-	Kerung
		Rio
		Rui La
		Taklakot
		Zhagmu
		Other
Specify "other" market in Tibet, where your buyer for this MAP was located (in 2071)*	-	-
Did you sell this MAP exclusively at your residence (in 2071)?	-	Yes
		No
Share (in %) of this MAP that you delivered to the buyer (in 2071)?*	Enter percentage as value between 1 and 100	1-100 percent
Distance to your selling site (in hours from residence, in 2071)?*	Value must be between 1 and 240. E.g. select "1" for distances up to one hour, "2" for distances between one and two hours, et cetera	1-240 hours

Wording of question	Hint	Choices
Mean of transportation to main selling site in 2071?*	Select multiple if applicable	Bicycle Bull cart Bus Jeep Motorcycle Pack animal Tractor Truck Walk
Which trade route did you use, to deliver this MAP to your buyer in Tibet (in 2071)?*	Select multiple if applicable	Trade routes to Tibet <sup>7</sup>
Specify "other" trade route used to deliver this MAP to your buyer in Tibet (in 2071)*	-	-
<b>Section C (Traders): Volume and value of individual products sold to Tibet</b>	-	-
This is the start of the repeat-loop for MAP products sold to Tibet.	-	-
Select a MAP products from this district, which the respondent sold to Tibet in 2071 (first MAP product on your list)	-	31 high altitude MAP products <sup>8</sup> , other
Specify "other" MAP product, which the respondent sold to Tibet in 2071*	-	-
Trade unit?	-	Kg Pieces
Total volume of this MAP product you sold to Tibet (in 2071)?	In trade unit (kg or pieces)	1-100000 units
Which share (in %), of the total volume of this MAP product you sold to Tibet, did you purchase from other traders or multi-purpose cooperatives - as opposed to harvesters (in 2071)?	Enter percentage as value between 0 and 100	0-100 percent
For which share (in %), of the total volume of this MAP product you sold to Tibet, did you offer an advance payment (in 2071)?	Enter percentage as value between 0 and 100	0-100 percent
Did you purchase this MAP exclusively at your shop (in 2071)?	-	Yes No



Wording of question	Hint	Choices
Share (in %) of this MAP that you picked up from the seller (in 2071)?*	Enter percentage as value between 1 and 100	1-100 percent
Most common purchase price in 2071?	In Nepalese Rupee per trade unit	1-17000 Nepalese Rupee
Have you been selling this MAP to Tibet for five or more years?	-	Yes No
Total volume of this MAP you sold to Tibet five years ago?*	In trade unit (kg or pieces)	1-100000 units
Where in Tibet was your buyer located (in 2071)?	Select multiple if applicable	Kerung Rio Rui La Taklakot Zhagmu Other
Specify "other" market in Tibet, where your buyer for this MAP was located (in 2071)*	-	-
Was all you sold of this MAP picked up by the buyer, at your shop (in 2071)?	-	Yes No
Share (%) of this MAP's sales volume, that you delivered to the buyer (in 2071)?*	Enter percentage as value between 1 and 100	1-100 percent
Distance to your selling site (in hours from residence, in 2071)?*	Value must be between 1 and 240. E.g. select "1" for distances up to one hour, "2" for distances between one and two hours, et cetera	1-240 hours
Mean of transportation to main selling site in 2071?*	Select multiple if applicable	Bicycle Bull cart Bus Jeep Motorcycle Pack animal Tractor Truck Walk
Which trade route did you use, to deliver this MAP to your buyer in Tibet (in 2071)?*	Select multiple if applicable	Trade routes to Tibet <sup>7</sup>
Specify "other" trade route used to deliver this MAP to your buyer in Tibet (in 2071)*	-	-

Wording of question	Hint	Choices
<b>Section D: Costs</b>		
Did the respondent sell all MAP products exclusively at his residence (in 2071)? ->> <b>Question for harvesters*</b>	-	Yes No
Did the respondent purchase all MAP products at his shop (in 2071)? ->> <b>Question for traders*</b>	-	Yes No
Were all MAPs sold by the respondent in 2071, picked up by the buyer at the respondent's shop? ->> <b>Question for traders*</b>	-	Yes No
<b>Questions for harvesters -&gt;&gt; start*</b>	-	-
Total annual transportation costs associated with MAP harvest (in 2071)?	In Nepalese Rupee	0-10000 Nepalese Rupee
Total annual transport costs associated with MAP sale, for MAPs delivered to the buyer (in 2071)?*	In Nepalese Rupee	0-10000 Nepalese Rupee
Types of rent-seeking encountered for MAPs you delivered to the buyer (in 2071)?*	This question is about rent-seeking encountered between your residence and the point of sale - select multiple if applicable	Rent-seeking from forest staff Rent-seeking from Nepalese army or police Rent-seeking from Chinese army or police Rent-seeking from Nepalese custom officials Rent-seeking from Chinese custom officials Other rent-seeking No rent-seeking encountered
Total annual cost of rent-seeking for each type of rent-seeking encountered for MAPs you delivered to the buyer (in 2071).*	Costs incurred due to rent-seeking encountered between your shop and the point of sale, in Nepalese Rupee	1-100000 Nepalese Rupee
Please specify "other" rent-seeking encountered for MAPs you delivered to the buyer (in 2071)?*	Specify each type of "other" rent-seeking encountered (receiver of payment and the total annual cost incurred for type of rent-seeking)?	-
<b>Questions for harvesters -&gt;&gt; end</b>	-	-
<b>Questions for traders -&gt;&gt; start*</b>	-	-
Rent of MAP store?	Nepalese Rupee per month (If the shop is owned by the trader, we assume that there is a market for renting and we use rent estimates, for owned stores)	0-20000 Nepalese Rupee
Average storage time for MAP products?	In number of months	0-36 months
Weight loss during storage (in %)?	Enter percentage as value between 1 and 20	0-20 percent
Total annual transport costs for MAPs picked up from the seller (in 2071)?	Costs incurred for MAP transport, from the point of purchase to your shop, in Nepalese Rupee	0-100000 Nepalese Rupee

Wording of question	Hint	Choices
Total annual transport costs for MAPs delivered to the buyer (in 2071)?*	Costs incurred for MAP transport, from your shop to the point of sale, in Nepalese Rupee	0-100000 Nepalese Rupee
Did you pay tax for MAPs you picked up from the seller (in 2071)?	-	Yes No
Specify which taxes you paid for MAPs you picked up from the seller (in 2071)?*	Specify the name of the tax and the total amount paid, in Nepalese Rupee	
Did you pay tax for MAPs you delivered to the buyer 2071?	-	Yes No
Specify which taxes you paid for MAPs you delivered to the buyer (in 2071)?*	Specify the name of the tax and the total amount paid, in Nepalese Rupee	-
Types of rent-seeking encountered for MAPs you picked up from the seller (in 2071)?*	This question is about rent-seeking encountered between the point of purchase and your shop - select multiple if applicable	Rent-seeking from forest staff Rent-seeking from Nepalese army or police Other rent-seeking No rent-seeking encountered
Total annual cost of rent-seeking for each type of rent-seeking encountered for MAPs you picked up from the seller (in 2071).*	Costs incurred due to rent-seeking encountered between the point of purchase and your shop, in Nepalese Rupee	1-100000 Nepalese Rupee
Please specify "other" rent-seeking encountered for MAPs you picked up from the seller (in 2071)?*	Specify each type of "other" rent-seeking encountered (receiver of payment and the total annual cost incurred for type of rent-seeking)?	-
Types of rent-seeking encountered for MAPs you delivered to the buyer (in 2071)?*	This question is about rent-seeking encountered between your shop and the point of sale - select multiple if applicable	Rent-seeking from forest staff Rent-seeking from Nepalese army or police Rent-seeking from Chinese army or police Rent-seeking from Nepalese custom officials Rent-seeking from Chinese custom officials Other rent-seeking No rent-seeking encountered
Total annual cost of rent-seeking for each type of rent-seeking encountered for MAPs you delivered to the buyer (in 2071).*	Costs incurred due to rent-seeking encountered between your shop and the point of sale, in Nepalese Rupee	1-100000 Nepalese Rupee
<b>Questions for traders -&gt;&gt; end</b>	-	-
Did you pay customs duties for MAPs you sold to Tibet in 2071?	-	Yes No
Total annual costs of customs duties for MAPs you sold to Tibet in 2071)?*	In Nepalese Rupee	0-100000 Nepalese Rupee

Wording of question	Hint	Choices
Did you pay quarantine fees for MAPs you sold to Tibet in 2071?	-	Yes No
Total annual costs of quarantine fees for MAPs you sold to Tibet in 2071?*	In Nepalese Rupee	0-100000 Nepalese Rupee
Did you have any other sub-costs associated with selling MAPs to Tibet in 2071?	-	Yes No
Please specify "other" sub-costs associated with selling MAPs to Tibet in 2071*	Specify each type of "other" sub-cost and the total annual costs incurred for each	-
The interview has been completed - thank the respondent for his time and participation	-	-
<b>Section E: Enumerators comments</b>	-	-
How reliable is the information generally provided by this respondent?	-	Poor Reasonably reliable Very reliable
Any comments or additional information about the interview?	-	-

\* Appearance of section, question or answer choices is conditional upon answer(s) to previous question(s)

## 3.7 Consumer surveys

These include a consumer survey for yarsagumba and a consumer survey for kutki.

### 3.7.1 Consumer survey for yarsagumba

Wording of question	Hint	Choices
Welcome to the Yarsagumba consumer survey	-	-
<b>Section A: Interview background information</b>	-	-
Name of Interviewer?	-	He Jun (ID 1-500) Research Assistant 1 (ID 501-1000) Research Assistant 2 (ID 1001-1500) Research Assistant 3 (ID 1501-2000)
Interview number (ID)?	-	Restricted value (conditional upon answer to question "Name of interviewer")
Date of the interview?	Required format: yyyy-mm-dd	-
City where the interview takes place?	-	Guangzhou, Beijing, Shanghai Kunming, Sichuan, Lhasa ....
Record interview location (GPS)	-	-
<b>Section B: Respondent background information</b>	-	-
How old are you?	-	15-100 years old
Sex of the respondent?	-	Male Female
Which is the highest level of education which you have obtained?	-	Primary school, Secondary school, High school, Bachelor Master and higher
What is your household annual income?	-	
What is your occupations		<b>-check the list from official categories</b>
<b>Section C: Information about the purchased yarsagumba</b>	-	
How much did you pay for the yarsagumba purchased in year 2016?	-	1-10000 Chinese yuan

Do you find yarsagumba is expensive?	-	Yes No
How would a decrease in the price of yarsagumba affect your purchase in the future?	-	I would buy less yarsagumba I would buy the same amount I would buy more yarsagumba
What did you consider when purchasing yarsagumba nowadays?	-	High price Low price Size of pieces Colour of pieces Taste/smell of pieces Freshness Recommendation from shop owner Other, please mention
How often do you purchased the Yarsagumba?		Several times a year, Triples a year, Twice a year, Once a year, Not regular buyers
Where do you main purchased the Yarsagumba from?		-Drug shop, -Tourism shop -Friends -from Villagers

**Section D: Information about the yarsagumba main consumer**

Is the respondent the main consumer of the purchased yarsagumba?	-	Yes No
If no, who will be the main consumer of the yarsagumba?		Wife/Husband of respondent Children of respondent Mother/Father of respondent Grand-mother/Grand-father of respondent Friend of respondent Colleague of respondent Other, please mention relationship with respondent
How old is the main consumer of the purchased yarsagumba?	THIS IS ONLY ASKED IF THE MAIN CONSUMER IS NOT THE RESPONDENT	0-100 years old
Sex of main consumer of yarsagumba?	THIS IS ONLY ASKED IF THE MAIN CONSUMER IS NOT THE RESPONDENT	Male Female
What is the highest level of education obtained by the main consumer of yarsagumba?	THIS IS ONLY ASKED IF THE MAIN CONSUMER IS NOT THE RESPONDENT	...

### Section E: Main uses of purchased yarsagumba

Are you planning to give the purchased yarsagumba as a gift, sometimes?	-	Yes No
Was yarsagumba prescribed by a doctor?	-	Yes No
If yes, what type of doctor?	-	Allopathic doctor TCM doctor Other, please mention
What will the main consumer use the yarsagumba for?	-	Boost energy levels Boost sexual performances Cancer treatment Prevention of diseases Respondent does not know Other, please mention

### Section F: consumption of yarsagumba

How often do you consume yarsagumba?		
Where do your consumed yarsagumba come from?		
Where do you mainly consume the yarsagumba		-in the home -at restaurant -at hospital
How do you normally consume yarsagumba?		-cook with chicken or other meat -boil in water -take the processed pills -take the processed powder -cook as other Chinese medicine
What do you think is the best way to consume yarsagumba to keep its medicinal function?		-cook with chicken or other meat -boil in water -take the processed pills -take the processed powder -cook as other Chinese medicine -I do not know

### Section G: Enumerators comments

How reliable is the information generally provided by this respondent?	-	Poor Reasonably reliable Very reliable
--	---	--

### 3.7.2 Consumer survey for yarsagumba (in Chinese)

This is the instrument to investigate consumer demand for Nepalese yarsagumba in China:

A.00 虫草消费者调查问卷———问卷号：

A.01 调查人

A.02 调查日期和开始时间 2017年 月 日

介绍

[调查员声明]

您好！我是中国科学院昆明植物研究所的科研人员。我们正在进行一个关于虫草消费者的调查。我们现在要做一个问卷访谈；我们想知道您们在虫草消费方面的信息和看法。请您放心；我们收集到的信息会严格保密；只会用于我们的研究。您的名字及个人信息也不会出现在任何报告里面；因此不会对您产生任何不好的影响；请您**尽管放心**。这个问卷可能会耽误您10-15分钟左右的时间；您的答案对我们来说非常重要。您觉得可以受访吗？

[注意：如果不行；到下一访谈对象；在问正式问题前花点时间同对方谈天说地；说些他们感兴趣的话题；让他们感到轻松自在以便问卷顺利进行]

A 受访者的信息

1. 您的年龄？ 岁；
2. 您目前居住在哪个城市？
3. 您的性别？ 1=男；2=女
4. 您的最高学历？ 1= 小学；2=初中；3=高中；4=本科；5=硕士及以上
5. 您的家庭年收入？ 元/年；
5. 您的职业
6. 您的职业是什么？

B. 购买虫草情况

7. 您于2016年花费了多少钱用于购买虫草？ (人民币)
8. 您是否认为虫草价值昂贵？ 0=否；1=是；



9. 如果未来虫草价格下降会影响您购买虫草吗？

1=我会减少虫草购买；2=我会和以前买的一样多；3=我会增加虫草购买

10. 现在你在购买虫草时主要考虑的是哪方面？（可以多选）

1=价格；2=尺寸；3=颜色；4=口感/气味；5=新鲜度；6=店主推荐；

7=其他；请具体说明\_\_\_\_\_

11. 您购买虫草的频率如何？

1= 一年多次；2= 一年三次；3=

一年两次；4=一年一次；5= 不经常买

12. 您主要从哪里购买虫草？

1=

正规药店；2=医院；3=旅游纪念品店；4=朋友；5=村民

13. 您购买虫草后是否主要是自己消费？ 0=否；1=是

14. 如果您不是主要的虫草消费者；谁是虫草的主要消费者？ 1=

您的妻子/丈夫；2=您的孩子；3=您的母亲/父亲；4=您的奶奶/爷爷；5=朋友；

6=同事；7=其他；请说明与被访者的关系----- \_\_\_\_\_

15. 有时您是否打算购买虫草作为礼物？ 0=否；1=是；

16. 医生开处方给您时是否有时会用到虫草？ 0=否；1=是；

17. 是什么类型的医生会用虫草开处方给您？

1=传统中医；2=西医医生4=其他；请具体说明\_\_\_\_\_

18. 您认为虫草的主要功效是？

1=提升精力；2=提高性功能和性能力；3=癌症治疗；4=疾病预防；5=不知道；

6=其他；请具体说明\_\_\_\_\_

19. 您经常吃虫草吗？ 0=否；1=是；

20. 您大概多长时间会吃一次？

1=几天一次；2=一月一次；3=几个月一次；4=几年一次

21. 您吃的虫草从哪里来的？

1=自己购买；2=朋友赠送；3=其他；请具体说明\_\_\_\_\_

22. 您主要在哪里吃到虫草？

1=家里；2=餐馆里；3=医院里

23. 您一般怎样吃虫草？

1=与鸡或其他肉类烹调；2=清水煮；3=直接泡水喝；4=泡酒；5=加工过的药片；

6=加工过的粉末；7=与其他中药煎服；

24. 您认为保持虫草药用功能最佳的服用方法是哪种？

1=与鸡或其他肉类烹调；2=清水煮；3=直接泡水喝；4=泡酒；5=加工过的药片；

6=加工过的粉末；7=与其他中药煎服；8=不知道

非常感谢您的帮忙！

### 3.7.3 Consumer survey for kutki

1. Name of respondent: .....

2. Sex of respondent

Male                      Female

3. Age of respondent.....

4. Education level of respondent

- |                                       |                                |                          |                     |
|---------------------------------------|--------------------------------|--------------------------|---------------------|
| 1. Illiterate                         | 2. Primary (1-5)               | 3. Lower Secondary (6-8) | 4. Secondary (9-10) |
| 5. S.L.C. and Equivalent              | 6. Intermediate and Equivalent | 7. Graduate and          |                     |
| 8. Post Graduate Equivalent and Above |                                |                          |                     |

5. Respondent's household's total annual cash income (past 12 months)

- |                     |                     |
|---------------------|---------------------|
| 1. < NRs. 1 lakh    | 2. NRs. 1 to 2 lakh |
| 3. NRs. 2 to 3 lakh |                     |
| 4. NRs. 3-4 lakh    | 5. NRs. 4-5 lakh    |
| 6. >NRs. 5 Lakh     |                     |

6. Do you believe that Ayurvedic medicine in general has any side effects?

- |                      |                       |
|----------------------|-----------------------|
| 1. Major side effect | 2. Minor side effects |
| 3. No side effect    |                       |

7. How do you perceive the price of this Ayurvedic medicine?

- |              |         |          |
|--------------|---------|----------|
| 1. Expensive | 2. Fair | 3. Cheap |
|--------------|---------|----------|

8. Based on whose recommendation do you come to purchase ayurvedic medicines?

- |                 |                  |                    |                |
|-----------------|------------------|--------------------|----------------|
| 1. Own decision | 2. Family advice | 3. Friend's advice | 4. Neighbour's |
| advice          | 5. Others        |                    |                |

9. Why do you choose to consume the Ayurvedic medicine for treatment? Write in your own words.

- 1.....  
.....
- 2.....  
.....
- 3.....  
.....
- 4.....  
.....

Please continue to next page.

# 10. Information of patients and their purchase of Ayurvedic medicine containing Kutki today

Name of Ayurvedic medicines containing Kutki	Health problem of patient What type of illness was this Ayurvedic medicine used for? Write exact illness.	Tick only one: <u>Was this medicine prescribed by a doctor?</u>		Total price paid for this Ayurvedic medicine in the past 12 months (NRs.)	Who is the patient to consume this medicine? (self, son, daughter, wife, father, mother, sister, brother, grandfather, grandmother, etc.)	Age of the patient	Education level of the patient	Occupation of the patient	Tick only one: <u>How do you perceive the price of this Ayurvedic medicine?</u>			Is this <u>Ayurvedic medicine used in combination with another type of medicine to treat the illness?</u>	
		Yes	No						Expensive	Fair	Cheap	Yes	No

Thank you.

### 3.8 Code lists used across questionnaires

<sup>1</sup> - 15 interview districts

Baitadi	Humla	Rautahat
Dang	Kailali	Rupandehi
Darchula	Morang	Surkhet
Dolakha	Nuwakot	Taplejung
Gorkha	Palpa	Udayapur

<sup>2</sup> - 101 castes

Adibasi/Jana jati	Bote	Churaut e	Dusadh/Paswan /Pasi	Jhagar/Dh agar	Kisan	Lodha	Muslim	Rajput	Tama ng	Yehl mo
Badi	Brahman-Hill	Dama/D holi	Gaine	Jirel	Koche	Lohar	Newar	Raute	Tatm a	-
Bahae	Brahman-Tarai	Danuwar	Gangai	Kahar	Koiri	Magar	Nuniya	Santhal/Sa ttar	Teli	-
Bangali	Brahmu/Baram u	Darai	Gharti/Bhujel	Kalwar	Kumal	Majhi	Nurang	Sanyasi	Thaka li	-
Baniya	Byangsi	Dhanuk	Gurung	Kamar	Kumhar	Mali	Pahari	Sarki	Thaku ri	-
Bantar	Chamar/Harijan /Ram	Dhimal	Hajam/Thakur	Kami	Kurmi	Mallah	Punjabi/S ikh	Sherpa	Tham i	-
Barae	Chepang (Praja)	Dhobi	Halkhor	Kanu	Kusunda	Marw adi	Rai	Sonar	Tharu	-
Bhedyar/Ga deri	Chhantel	Dhunia	Haluwai	Kayastha	Kuswadiya/Patha rkatta	Masah ar	Rajbansi	Sudhi	Walu ng	-
Bhote	Chhetri	Dom	Hayu	Kewat	Lepcha	Meche	Rajbhar	Sunuwar	Yadav	-
Bing/Binda	Chidimar	Dura	Jaine	Khatwe	Limbu	Mund a	Raji	Tajpuriya	Yakkh a	-

<sup>3</sup> - 46 MAP products

Amala	Chutro	Jiwanti	Nagbeli	Sikakai
Attis	Dalchini	Kakoli	Nirmasi	Silajeet
Barro	Dhasingre	Kalo Museli	Padamchal	Sugandhakokila
Bish	Dhupi/Kalo dhupi	Kaulo	Pakhanved/Pashanved	Sugandhawal/Samayo

Bojho	Gamdol	Khiraula/Oake Aalu	Panchaaule	Sunpati
Chabo	Guchi chyou	Kurilo/Satavari	Pipla	Tejpat
Chiraito/Tite	Harro	Kutki/Katuki	Rittha	Timur
Chiuri	Jatamansi	Laghu patra	Rudraksha	Vyakur
Chulthi amilo	Jhyau	Majitho	Sarpagandha	Yarshagumba/Yartsagunbu
-	-	-	Satuwa	-

<sup>4</sup> - 75 districts of Nepal

Achham	Bardiya	Dhading	Humla	Kapilbastu	Makwanpur	Okhaldhunga	Rautahat	Sindhuli	Taplejung
Arghakhanchi	Bhaktapur	Dhankuta	Ilam	Kaski	Manang	Palpa	Rolpa	Sindhupalchok	Terhathum
Baglung	Bhojpur	Dhanusa	Jajarkot	Kathmandu	Morang	Panchthar	Rukum	Siraha	Udayapur
Baitadi	Chitawan	Dolakha	Jhapa	Kavrepalanchok	Mugu	Parbat	Rupandehi	Solukhumbu	-
Bajhang	Dadeldhura	Dolpa	Jumla	Khotang	Mustang	Parsa	Salyan	Sunsari	-
Bajura	Dailekh	Doti	Kailali	Lalitpur	Myagdi	Pyuthan	Sankhuwasabha	Surkhet	-
Banke	Dang	Gorkha	Kalikot	Lamjung	Nawalparasi	Ramechhap	Saptari	Syangja	-
Bara	Darchula	Gulmi	Kanchanpur	Mahottari	Nuwakot	Rasuwa	Sarlahi	Tanahu	-

<sup>5</sup> - Selected cities/countries for each destination

Bhairahawa	Amdo	Belgium	Gulf
Biratnagar	Beijing	England	Japan
Birgunj	Burang	France	Malaysia
Birtamod	Chamdo	Germany	-
Krishnanagar	Damshung	-	-
Mahendranagar	Dingri	-	-
Nepalgunj	Guanjhou	-	-
-	Gyantse	-	-
-	Hongkong	-	-
-	Lhasa	-	-
-	Nagqu	-	-
-	Nyingchi	-	-

-	Pome	-	-
-	Tsetang	-	-
-	Xigaze	-	-
-	Zhangmu	-	-

<sup>6</sup> - 10 Tibet-border districts

Bajhang	Dhading	Dolpa	Manang	Mugu
Mustang	Rasuwa	Sankhuwasawa	Sindhupalchok	Solukhumbu

<sup>7</sup> – Trade routes to Tibet

Hilsa-Yari (Humla)	Kimathanka (Sankhuwasabha)	Lambagar-Lapchi (Dolakha)	Lomathang (Mustang)	Marim Pass (Dolpa)
Namla Pass (Mugu)	Nangpa Pass (Solukhumbu)	Rasuwasagadi-Kerung (Rasuwa)	Samdo-Rui La (Gorkha)	Tatopani (Sindhupalchowk)
Tinker Route (Darchula)	Walangchung Gola - Tiptala (Taplejung)	-	-	-

<sup>8</sup> - 31 high altitude MAP products

Attis	Dhupi/Kalo dhupi	Kalo Museli	Nirmasi	Sunpati
Bish	Gamdol	Kaulo	Padamchal (roots)	Timur
Bojho	Guchi chyou	Khiraula/Oake Aalu	Pakhanved/Pashanved	Yarshagumba/Yartsagunbu
Chiraito/Tite	Jatamansi	Kutki/Katuki	Panchaale	-
Chulthi amilo	Jhyau	Laghu patra	Satuwa	-
Chutro	Jiwanti	Majitho	Silajeet	-
Dhasingre	Kakoli	Nagbeli	Sugandhawal/Samayo	-

## Appendix 4: Interview guides

This appendix provides the text of the qualitative part of the Harvester survey, Trader survey, Central wholesaler survey, Regional wholesaler survey, Processor survey, Tibet-border survey, as well as the Political ecology interview guide and the Livelihood case studies. The appendix also includes Nepalese and Hindi versions of interview guides as appropriate. All interviews are recorded (using microphones attached to tablet), transcribed in Nepalese or English depending on language used during interview, and translated into English if necessary. Analysis of transcripts will be undertaken using Nvivo.

### 4.1 Harvester instrument (qualitative part)

This will be done as a group discussion. After gathering the participants please ask them to briefly introduce themselves. Remember to explain the 'rules' (open discussion, important that all are contributing, interview 'manager' to sum up and move on, etc.) and explain the structure of the questions (i.e. sets of questions that follow the work processes, winding up with comparison with earlier conditions). See also list of things to remember in focus group discussions.

#### A. GETTING INVOLVED

- A1. Do you collect or cultivate?
- A2. Why did you get involved in MAP collection or cultivation?
- A3. If someone new would want to start collecting or cultivating MAPs, how would he/she start?
- A4. What would they have to know (permits to collect, etc.)?
- A5. Do the same conditions apply for men and women when starting?

#### B. HARVESTING

- B1. How would new collectors know where to collect and what to collect? (NB: this question is not relevant for domesticators)
- B2. What kind of exchange of advice/counselling for harvesting (between collectors; about timing, technique, where to go, tools)?
- B3. How do you acquire knowledge?

#### C. HANDLING

For each product, specify:

- C1. After harvest, what do you do? (cleaning, drying, sorting, quality checks, other).
- C2. Are there different types of qualities/grades?
- C3. If yes, how do you differentiate between different qualities? (probe for indications (large leaves, long roots, etc.))
- C4. Do you get paid different prices for different qualities?

#### D. SELLING

- D1. Is there any kind of exchange of advice/counseling among harvesters about selling (about timing, where to go, etc.)? (Hint: this is about the flow of knowledge)
- D2. Can you list the buyers which you are aware of?
- D3. Do you go to the same buyers every year? If yes, why? If no, why? (probe for price, reliability of buyer, etc.).
- D4. What characterizes a trader with a good reputation?
- D5. What characterizes a trader with a bad reputation?
- D6. Does reputation of the trader matters when you choose to sell to someone?
- D7. Are you paid in cash or in kind?
- D8. Is the full amount paid at once or in different payments?
- D9. Have you ever received advance payments? (probe for 1) kind or cash, and 2) names and/or location of person offering advance payment)
- D10. Under what conditions have you received advance payments? (probe for interest rate, discounted price and fixed volume sales, other)
- D11. What would happen to you if you don't sell the MAPs to the person from whom you got the advance payment?
- D12. What do you prefer: advance payments or choosing your buyer after harvest?
- D13. Do you get a fair price? Why or why not (tell why if you think you are not getting a fair price)?
- D14. Are there any MAP trading cooperatives in your village or nearby?
- D15. Do you sell to them? Why or why not?

#### E. PERMITS AND RENT-SEEKING

- E1. Under what circumstances do you have to pay extra payments while harvesting or transporting your products?

#### F. CHANGES AND PROSPECTS

- F1. What do you see as the main changes in MAP harvesting and trade in the past 15 years? (age, sex of collectors, species, availability, prices, price information, etc.).
- F2. How has the contribution of MAPs to your household income changed?
- F3. What do you see as main problems in this business?
- F4. Will you collect next year? Why or why not?
- F5. Do you want your children to do that in the future?
- F6. Why don't you generate the same income from other activities?
- F7. What are opportunities for earning more money in this business?



#### 4.1.1 Harvester instrument in Nepalese (qualitative part) -

##### A. GETTING INVOLVED

###### (परिचय)

1. तपाईंहरू जडीबुटी संकलन गर्नुहुन्छ कि खेती गर्नुहुन्छ ?
2. तपाईंहरूले जडीबुटीको संकलन वा खेती किन गर्नु भयो ?
3. यदि कसैले जडीबुटी संकलन वा खेती गर्न चाहेमा, कसरी सुरुवात गर्नु पर्ला ?
4. जडीबुटी संकलन वा खेती गर्न चाहनेले सुरुमा के थाहा पाउनु पर्ला ? जस्तै संकलन वा खेती गर्न अनुमति पुर्जी, कुन जडीबुटी कहाँबाट र कहिले संकलन गर्ने भन्ने कुरा आदी?
5. जडीबुटी संकलन वा खेती गर्न, महिला र पुरुषलाई एउटै कि फरक अवस्था हुन्छ ?

##### B. HARVESTING

###### (संकलन वा खेती)

1. भर्खरै शुरू गरेका संकलनहरूले कहाँ र कसरी संकलन गर्ने भन्ने कसरी थाहा पाउँछन् ?
2. जडीबुटी संकलकबीच संकलन वा खेती बारे कस्ता खाले कुराहरू हुन्छन् ? ( जस्तै जडीबुटी संकलन समय, स्थान, तरिका (technique), औजार (tools))
3. यि सबै ज्ञानहरू कसरी पाउनु भयो ?

##### C. HANDLING

###### (प्रशोधन, किने पछि बिक्री अघि सम्म)

प्रत्येक जडीबुटीको लागि, छुट्याउने (For each product, specify:)

1. जडीबुटी संकलन पछि के गर्नु हुन्छ ? जस्तै सफाई, सुकाई, केलाई, गुणस्तर चेक, अन्य (cleaning, drying, sorting, quality checks, other)
2. के जडीबुटीको विभिन्न गुणस्तर (काँचो, सुकेको, ठूलो, सानो आदि) हुन्छ ?
3. यदि हुन्छ भने, जडीबुटीको विभिन्न गुणस्तर कसरी थाहा पाउनु हुन्छ ? (जस्तै ठूलो पात, लामो जरा, काँचो, सुकेको, ठूलो, सानो आदी )
4. के तपाईंहरूले विभिन्न गुणस्तरको जडीबुटीको फरक मूल्य पाउनु हुन्छ ?

##### D. SELLING

###### (विक्री)

1. जडीबुटी संकलक बीच जडीबुटी बेच्ने बारे के कस्ता कुरा हुन्छन् ? (जस्तै जडीबुटी बेच्ने समय, बेच्ने स्थान ? (Hint: this is about the flow of knowledge)
2. तपाईंहरूले थाहा पाउनुभएको व्यापारी को को हुन् ? (Note: If new buyers, note them)

3. के तपाईंहरू प्राय एक उही व्यापारीलाई बेच्नु हुन्छ ? किन ? (probe for price, reliability of buyer etc)
4. कस्ता जडीबुटी व्यापारीहरूलाई राम्रा व्यापारीहरू भन्नु हुन्छ ?
5. कस्ता जडीबुटी व्यापारीहरूलाई नराम्रा (खराब) व्यापारीहरू भन्नु हुन्छ ?
6. के जडीबुटी बिक्री गर्न जडीबुटी व्यापारीहरूको प्रतिष्ठाले तपाईंहरूलाई फरक पार्छ ?
7. भुक्तानी नगदमा हुन्छ कि सामन वा अन्य केहीमा हुन्छ ?
8. के सबै भुक्तानी एकै पटक हुन्छ कि पटक पटक हुन्छ ?
9. के तपाईंहरूले कहिले बैना (वा पेशकी) लिनु भएको छ ? (१. नगद कि सामन वा अन्य २. बैना दिनेको नाम र ठेगाना (note it in the diary))
10. कस्तो अवस्थामा बैना लिनु हुन्छ (probe for interest rate, discounted price and fixed volume sales, other) ?
11. बैना लिएको जडीबुटी व्यापारीलाई जडीबुटी बेच्नु भएन भए के होला ?
12. बैना दिने जडीबुटी व्यापारीलाई बेचन ठिक कि खुला बजारमा बेचन ठिक ?
13. के तपाईंहरूले जडीबुटीको उचित मूल्य पाउनु भएको छ ? किन ?
14. के तपाईंको गाँऊ वा नजिकै जडीबुटी व्यापार गर्ने सहकारी छ ?
15. त्यो जडीबुटी व्यापार गर्ने सहकारीलाई तपाईंको जडीबुटी बेच्नु हुन्छ ? किन ?

#### E. PERMITS AND RENT-SEEKING

(अनुमति र अतिरिक्त शुल्क )

1. कस्तो अवस्थामा जडीबुटी संकलन वा ढुवानी गर्न अनुमति पुर्जी वा कुनै किसिमको अतिरिक्त शुल्क लाग्छ ?

#### F. CHANGES AND PROSPECTS

(परिवर्तन र संभावनाहरू)

1. पछिल्ला १५ वर्षमा जडीबुटी संकलन (खेती) र व्यापारमा कस्ता खाले परिवर्तन देख्नु भएको छ ? जस्तै संकलनको उमेर, लिंग, प्रजाति, उपलब्धता, मूल्य, मूल्य सूचना आदि ।
2. जडीबुटीको कारणले तपाईंहरूको घरघुरी आम्दानीमा कसरी परिवर्तन भएको छ ?
3. जडीबुटी व्यापारका मुख्य समस्याहरू के के हुन् ?
4. के आगामी वर्ष पनि जडीबुटी संकलन (खेती) गर्नु हुन्छ ? किन ?
5. भविष्यमा के तपाईंहरू आफ्ना सन्तान पनि यहि गरुन् भन्ने चाहानु हुन्छ ?
6. अन्य व्यवसाय गरेर किन यति नै उत्पादन ( आम्दानी) गर्नु हुन्न ?
7. यस क्षेत्रलाई थप नाफामूलक बनाउन के गर्नु पर्ला ? सम्भावना कतिको छ ?



#### 4.1.2 Yarsagumba harvester instrument (qualitative part)

This will be done as a group discussion. After gathering the participants please ask them to briefly introduce themselves. Remember to explain the 'rules' (open discussion, important that all are contributing, interview 'manager' to sum up and move on, etc.) and explain the structure of the questions (i.e. sets of questions that follow the work processes, winding up with comparison with earlier conditions). See also list of things to remember in focus group discussions.

##### A. GETTING INVOLVED

- A1. When did yarsagumba collection become something most people do?
- A2. Why did this change take place?
- A3. What do you have to do before you go to the collection sites (e.g. pay permit, equipment, transport)?
- A4. How long does the collection season last (usual start and end dates)?
- A5. What is the number of collectors coming here? From what VDCs in this district? From what other districts?

##### B. HARVESTING

- B1. What makes a harvester a good harvester, able to find a lot of pieces?
- B2. Do the same conditions and rules apply for men, women, and children when collecting?
- B3. Do you collect in the same areas each year?
- B4. How do you find out where to go to harvest (e.g. mobile phones)?
- B5. Are there many outsiders coming to harvest? Why? Growing or diminishing?
- B6. What current harvesting practices are bad for yarsagumba harvesting in the future (e.g. early harvest of undeveloped specimens, pollution in collection sites like with plastic bags, trampling, cutting for firewood)?
- B7. What current harvesting practices are good for yarsagumba harvesting in the future (e.g. common start date, collection fee, common end date)?

##### C. HANDLING

- C1. After you find a piece, what do you do? (cleaning, drying, sorting, quality checks, other).
- C2. Are there different types of qualities/grades?
- C3. If yes, how do you differentiate between different qualities? (probe for indications, e.g. colour, size)
- C4. Do you get paid different prices for different qualities?
- C5. What is the average no. of pieces per tola? Per kg?

##### D. SELLING

- D1. Is there any kind of exchange of advice/counselling among harvesters about selling (about timing, where to go, etc.)? (Hint: this is about the flow of knowledge)
- D2. Do you go to the same buyers every year? If yes, why? If no, why? (probe for price, reliability of buyer, etc.).

- D3. What characterizes a trader with a good reputation?
- D4. What characterizes a trader with a bad reputation?
- D5. Does reputation of the trader matters when you choose to sell to someone?
- D6. Are you paid in cash or in kind?
- D7. Is the full amount paid at once or in different instalments?
- D8. Have you ever received advance payments? (probe for 1) kind or cash, and 2) names and/or location of person offering advance payment)
- D9. Under what conditions have you received advance payments? (probe for interest rate, discounted price and fixed volume sales, other)
- D10. What would happen to you if you don't sell the yarsagumba to the person from whom you got the advance payment?
- D11. What do you prefer: advance payments or choosing your buyer after harvest?
- D12. Do you get a fair price? Why or why not (tell why if you think you are not getting a fair price)?

#### E. PERMITS AND RENT-SEEKING

- E1. Under what circumstances do you have to pay extra payments while harvesting or transporting your products?
- E2. Does the Conservation Area work to promote or hinder yarsagumba collection and trade? How?

#### F. CHANGES AND PROSPECTS

- F1. What do you see as the main changes in yarsagumba harvesting and trade in the past 15 years? (age, sex of collectors, species, availability, prices, price information, road access, etc.).
- F2. How has the contribution of yarsagumba to your household income changed?
- F3. What do you see as main problems in this business/arising from this business?
- F4. What good changes is yarsagumba bringing about (e.g. new houses, less out-migration of young people)?
- F6. Why don't you generate the same income from other activities?
- F7. What are opportunities for earning more money from harvesting and selling yarsagumba?

## 4.2 District trader instrument (qualitative part)

### A. GETTING INVOLVED

- A1. What is your name?
- A2. When did you start your business?
- A3. Was it difficult to get started? (probe for mode of financing of initial investment)
- A4. Why? (did he/she come from the business, any experience?) (how did he/she get the knowledge to establish the business?).
- A5. What if someone would like to start trading MAPs now? How would he/she do?
- A6. If cooperative: How did you start? Why? How are you organized? (Rules? Fees? Membership? )

### B. BUYING

- B1. Who do you buy from – village-level traders or individual harvesters?
- B2. Do harvesters/village-level traders come to your place or do you go to their place? Why?
- B3. Do you offer advance payments to harvesters? All? Why or why not?
- B4. Do you offer advance payments to village-level traders? All? Why or why not?
- B5. If advance payments are offered, how do you ensure that you get your money back?
- B6. If advance payments are offered, do you charge any interest rate?
- B7. If advance payment is offered, do you buy at a lower price?
- B8. How do you ensure that your needs/requirements (in volume terms) are channeled to the harvesters or sub-local traders?
- B9. Do you buy from the same harvesters/sub-local traders in season after season? Why?
- B10. Do you encounter any problems in the buying process? (probe for adulteration, etc.)
- B11. How do you know the prices you should pay?
- B12. Do you pay different prices for different qualities? How do you distinguish between qualities (high and low)?
- B13. Do you know the prices that other district traders are paying?
- B14. What about competition for supplies of MAPs? Is it strong? Who else is buying?
- B15. What is your competitive edge?

### C. HANDLING

- C1. What do you do with the products? (probe for each of the following: cleaning, processing, sorting, packaging, storing)
- C2. If any of these activities: Why do you do that? (probe for buyer requirement, profit, 'custom', other)
- C3. Do you get different prices for different qualities for any of the species that you handle (cf. B12)?
- C4. Do you have access to credit? (probe for bank overdraft, own savings, informal loans, other)
- C5. Is there any cooperation between traders? (probe for activity: buying, handling, selling, other)

#### D. SELLING

- D1. Do you receive advance payment?
- D2. If yes, specify for which products – and/or estimate share of total sales.
- D3. If you get advance payment, what are the conditions? (Probe for sales of fixed volume, sales at discounted price, payment of interest rate, other)
- D4. Do you sell to on the open market (opposite to advance payment)?
- D5. On the open market, do you go to the same buyers every year? If yes, why? If no, why? (probe for importance of price, reliability of buyers, etc.).
- D6. Who pays for the transportation to the buyers? (probe for different categories of buyers, i.e. open market relations or financiers of advance payments)
- D7. How do you negotiate prices with buyers? (fixed for the season?)
- D8. Is there a lot of competition among traders who want to buy your products?
- D9. Are there processors in the district? Names, location?
- D10. Do you sell any MAPs to processors? (probe for importance)

#### E. PERMITS AND RENT-SEEKING

- E1. From where do you have to get the permit to transport the MAPs? If so, is there a fee?
- E2. When do you have to pay extra payments while transporting your products? (Probe for bribes (rent-seeking))

#### F. CHANGES AND PROSPECTS

- F1. What do you see as the main changes in MAP harvesting and trade practices in the past 15 years? (age, sex of collectors, products, availability, prices, price information, etc.).
- F2. How has your MAP income changed in the past 15 years?
- F3. Do you see any problems in the supply system?
- F4. Do you see any problems in the selling systems?
- F5. What are opportunities for earning more money in this business?

#### 4.2.1 Trader instrument in Nepalese (qualitative part) - स्थानीय वा जिल्लाका व्यापारीको लागि प्रश्नावली

##### A. GETTING INVOLVED

###### (परिचय)

1. तपाईंको नाम ?
2. जडीबुटी व्यापार कहिलेदेखि शुरु गर्नु भयो ?
3. जडीबुटीको व्यापार शुरु गर्दा कुनै समस्या त परेन (जस्तै आर्थिक व्यावस्थापन) ?
4. गाह्रो भएको भए किन ? (व्यापारमा नयाँ, अनुभवको कमी आदि) ? जडीबुटीको व्यापार सम्बन्धि ज्ञान कहाँबाट पाउनु भयो?
5. यदि कसैले कुनै जडीबुटी व्यापार शुरु गर्न चाहेमा के र कसरी गर्नु पर्ला ?
6. के तपाईं पहिले कुनै trading कम्पनीको partner हुनुहुन्थ्यो ? यदि हुनुहुन्थ्यो भने partnership कसरी चलेको थियो ? partnership का फाइदा र बेफाइदा के के हुन् ।

##### B. BUYING

###### (खरिद)

1. तपाईंले को सँग जडीबुटी खरिद गर्नु हुन्छ (संकलक अथवा स्थानीय जडीबुटी व्यापारी, सहकारी) ?
2. बिक्रेताहरूले सामान आफैं ल्याइदिन्छन् कि तपाईं आफैं लिन जानु पर्छ ।
3. के तपाईंले संकलक, कृषकलाई बैना/पेशकी दिनु हुन्छ ? कति जति ? किन ?
4. के तपाईंले स्थानीय जडीबुटी व्यापारीलाई बैना/पेशकी दिनु हुन्छ ? कति जति ? किन ?
5. बैना/पेशकी दिएको अवस्थामा
  - i. बैना दिएपछि सामान आउँछ भन्ने Guarantee के छ ?
  - ii. बैना दिएपछि बैना रकमको व्याज लिनु हुन्छ ?
  - iii. त्यस्तो सामानको मूल्य अलि फरक (तलमाथि) हुन्छ की ?
6. तपाईंले आफ्नो आवश्यकता अनुसारको जडीबुटी को सँग कति खरिद गर्ने, कसरी सुनिश्चित गराउनु हुन्छ (channelise) ?
7. के तपाईं सधैं उही संकलक वा व्यापारीसँगमात्र खरिद गर्नु हुन्छ ? यदि हो भने किन ?
8. खरिद गर्दा कुनै समस्या भोग्नु भएको छ की (मिसावट आदि) ?
9. खरिद गर्ने जडीबुटीको मूल्यबारे कसरी थाहा पाउनु हुन्छ ?
10. जडीबुटीको गुणस्तर कसरी छुट्याउनु हुन्छ । फरक गुणस्तरका जडीबुटीको मूल्य पनि फरक नै हुन्छ होला, होइन त ?
11. अन्य व्यापारीले खरिद गर्ने जडीबुटीको मूल्य तपाईंलाई थाहा हुन्छ ?
12. जडीबुटीको खरिदमा व्यापारीहरूबीच कतिको प्रतिस्पर्धा (competition) हुन्छ ? अरु कस्तो खरिद गर्छ ?
13. जडीबुटीको खरिदमा तपाईंको सवल पक्ष के हो ?

##### C. HANDLING

###### (प्रशोधन वा खरिद पछि बिक्री सम्म)



1. जडीबुटी किने पछि के गर्नु हुन्छ ? जस्तै सफाई, सुकाई, केलाई, गुणस्तर चेक, अन्य (cleaning, drying, sorting, quality checks, other)
2. यदि माथिका केहि गर्नु हुन्छ भने किन? (probe for buyer requirement, profit, 'custom', other)
3. यसरी जडीबुटीको गुणस्तर छुट्याए पछि फरक गुणस्तरका जडीबुटीको मूल्य पनि फरक नै हुन्छ होला, होइन त?
4. के तपाईले वित्तीय संस्थाबाट ऋन पाउनु हुन्छ ?(probe for bank overdraft, own savings, informal loans, other)
5. के तपाई जस्ता जडीबुटी व्यापारीहरु बीच कुनै सहकार्य छ ?(probe for activity: buying, handling, selling, other)

#### D. SELLING

##### (बिक्री)

1. के तपाई बैना/पेशकी लिनु हुन्छ ?
2. कुन कुन जडीबुटीको लागि बैना लिनु हुन्छ ? कुल बिक्रीको कति प्रतिशत जति बैना लिनु हुन्छ?
3. बैना लिँदा कुनै सम्झौता गर्नु हुन्छ वा अरु केही (probe for sales of fixed volume, sales as discounted price, payment of interest rate, other) हुन्छ की?
4. के तपाई खुला बजारमा बेच्नु हुन्छ ? (opposite to advance payment)
5. खुला बजारमा के तपाई प्राय एक उही व्यापारीलाई बेच्नु हुन्छ ? किन ? (probe for importance of price, reliability of buyers etc)
6. ढुवानीको खर्च कस्ले बेहोर्छ ? (probe for different categories of buyers, i.e. open market relations or financiers of advance payments)
7. खरिदकर्तासँग उत्पादनको मूल्य कसरी निर्धारण गर्नु हुन्छ (सिजन अनुसार, बजार माग अनुसार आदि) ।
8. खरिदकर्ताहरुबीच तपाईको सामान किन प्रतिस्पर्धा हुन्छ की ?
9. के जिल्लामा प्रशोधनकर्ता छन् ? Names, location? (Note it in diary)
10. के तपाई जडीबुटी प्रशोधनकर्ता लाई बेच्नु हुन्छ ?

#### E. PERMITS AND RENT-SEEKING

1. जडीबुटी ढुवानी गर्न अनुमति पुर्जी कहाँ बाट लिनु हुन्छ? यदि लिदा शुल्क पनि लाग्छ हैन ?
2. जडीबुटी ढुवानी गर्दा कस्तो अवस्थामा अतिरिक्त शुल्क तिर्नु पर्ला (टेबुल तल) ?

#### F. CHANGES AND PROSPECTS

1. पछिल्ला १५ वर्षमा जडीबुटी संकलन र व्यापारमा कुनै परिवर्तन देख्नु भएको छ ? जस्तै संकलनको उमेर, लिंग, प्रजाति, उपलब्धता, मूल्य, मूल्य सूचना आदि ।

२. पछिल्ला १५ वर्षमा तपाईं जडीबुटीको व्यापारबाट खुसी हुनु हुन्छ (आम्दानी) ?
३. जडीबुटीको आपूर्ति (supply) मा केही समस्या देख्नु भएको छ ? (मिसावट, अति र समय अगाडी संकलन आदि)
४. जडीबुटीको व्यापार र विक्री प्रणालीमा केही समस्या देख्नु भएको छ ?
५. यस क्षेत्रलाई थप नाफामूलक बनाउन के गर्नु पर्ला ? सम्भावना कतिको छ ?

## 4.3 Central Wholesaler instrument (qualitative part)

### A. GETTING INVOLVED

- A1. What is your name?
- A1. When did you start your business?
- A2. Was it difficult to get started? (probe for mode of financing of initial investment)
- A3. Why? (did he/she come from the business, any experience?) (how did he/she get the knowledge to establish the business?).
- A4. What if someone would like to start trading MAPs now? How would he/she do?

### B. BUYING

- B1. Who do you buy from? (probe for district traders and/or individual harvesters)
- B2. Do suppliers come to you or do you go to their place?
- B3. Do you offer advance payments to district traders (or other suppliers)? Why or why not?
- B4. If advance payments are offered, how do you ensure that you get your money back?
- B5. If advance payments are offered, do you charge any interest rate?
- B6. If advance payments are offered, do you buy at a lower price?
- B7. How do you ensure that your needs/requirements (in volume terms) are channeled to the district traders?
- B8. Do you always buy from the same district traders? Why?
- B9. Is there cooperation between traders?
- B10. Do you encounter any problems in the buying process? (probe for adulteration, etc.)
- B11. How do you know the prices you should pay?
- B12. Do you pay different prices for different qualities? How do you differentiate between qualities?
- B13. Do you know the prices that the other central wholesalers are paying?
- B14. How strong is the competition for supplies? What do you think is your competitive edge?

### C. HANDLING

- C1. What do you do with the products? (probe for each of the following: cleaning, processing, sorting, packaging, storing)
- C2. If any of these activities: Why do you do that? (probe for buyer requirement, better price/profit, 'custom', other)
- C3. Do you have access to credit? Informal loans? Bank accounts? Other?
- C4. Is there any cooperation between wholesalers (probe for activity: buying, handling, selling, other)?

### D. SELLING

- D1. Do you receive advance payments?
- D2. If yes, specify for which products – and/or estimate share of total sales.
- D3. If you get advance payments, what are the conditions? (Probe for sales of fixed volume, sales at discounted price, payment of interest rate, other)

- D4. Do you sell on the open market?
- D5. On the open market, do you go to the same buyers every year? If yes, why? If no, why? (probe for importance of price, reliability of buyers, etc.).
- D6. Who pays for the transportation to the buyers? (probe for different categories of buyers, i.e. open market relations or financiers of advance payments)
- D7. How do you negotiate prices with buyers? (fixed for the season?)
- D8. Do you get different prices for different qualities for any of the species that you sell?
- D9. Is there a lot of competition among traders who want to buy your products?
- D10. Are there any processors in the district? Names, location?
- D11. Do you sell any MAPs to processors? (probe for importance)

#### E. PERMITS AND RENT-SEEKING

- E1. From where do you have to get the permit to transport the MAPs? If so, is there a fee?
- E2. When do you have to pay extra payments while transporting your products? (Probe for bribes (rent-seeking))
- E3. From whom do you need a permit to export MAP to India? China? Other countries?
- E4. Do you encounter any problems when you export MAPs? (probe for bureaucracy, export duties, bribes, import tariffs, changing standards on export markets, etc. on each of the relevant markets – see E3)

#### F. CHANGES AND PROSPECTS

- F1. What do you consider as the main changes in MAP trade in the past 15 years? (new products, availability, prices, price information, etc.)
- F2. How has your MAP income changed in the past 15 years?
- F3. Do you see any (present and emerging) problems in the supply system?
- F4. Do you see any (present and emerging) problems in the selling systems?
- F5. What are opportunities for earning more money in this business?

#### 4.3.1 Central wholesaler instrument in Nepalese (qualitative part) - जडीबुटी निर्यातकर्ताको लागि प्रश्नावली

##### A. GETTING STARTED

###### (परिचय)

1. तपाईंको नाम ?
2. जडीबुटी व्यापार कहिलेदेखि शुरू गर्नु भयो ?
3. जडीबुटीको व्यापार शुरू गर्दा कुनै समस्या त परेन (जस्तै आर्थिक व्यावस्थापन) ?
4. गान्छो भएको भए किन ? (व्यापारमा नयाँ, अनुभवको कमी आदि) ? जडीबुटीको व्यापार सम्बन्धि ज्ञान कहाँबाट पाउनु भयो?
5. यदि कसैले कुनै जडीबुटी व्यापार शुरू गर्न चाहेमा के र कसरी गर्नु पर्ला ?
6. के तपाईं पहिले कुनै trading कम्पनीको partner हुनुहुन्थ्यो ? यदि हुनुहुन्थ्यो भने partnership कसरी चलेको थियो ? तपाईंको हकमा partnership का फाइदा र बेफाइदा के के हुन् ।

##### B. BUYING

###### (खरिद)

1. तपाईंले को सँग जडीबुटी खरिद गर्नु हुन्छ (संकलक, स्थानीय जडीबुटी व्यापारी, जिल्लाका व्यापारी वा सहकारी) ?
2. बिक्रेताहरूले सामान आफैं ल्याइदिन्छन् कि तपाईं आफैं लिन जानु पर्छ ।
3. के तपाईंले संकलक, स्थानीय वा जिल्लाका व्यापारी वा अन्य आपूर्तिकर्तालाई बैना/पेशकी दिनु हुन्छ ? कति जति? किन ?
4. बैना/पेशकी दिएको अवस्थामा
  - i. बैना दिएपछि सामान आउँछ भन्ने Guarantee के छ ?
  - ii. बैना दिएपछि बैना रकमको व्याज लिनु हुन्छ ?
  - iii. त्यस्तो सामानको मूल्य अलि फरक (तलमाथि) हुन्छ की ?
5. तपाईंले आफ्नो आवश्यकता अनुसारको जडीबुटी को सँग कति खरिद गर्ने, कसरी सुनिश्चित गराउनु हुन्छ ?
6. के तपाईं सधैं उही संकलक वा व्यापारीसँगमात्र खरिद गर्नु हुन्छ ? यदि हो भने किन ?
7. जडीबुटी आपूर्तिकर्ता (व्यापारी) बीच समन्वय वा सहकार्य छ ?
8. खरिद गर्दा कुनै समस्या भोग्नु भएको छ की (मिसावट आदि) ?
9. खरिद गर्ने जडीबुटीको मूल्यबारे कसरी थाहा पाउनु हुन्छ ?
10. जडीबुटीको गुणस्तर कसरी छुट्याउनु हुन्छ । फरक गुणस्तरका जडीबुटीको मूल्य पनि फरक नै हुन्छ होला, होइन त?
11. अन्य व्यापारीले खरिद गर्ने जडीबुटीको मूल्य तपाईंलाई थाहा हुन्छ ?
12. जडीबुटीको खरिदमा व्यापारीहरूबीच कतिको प्रतिस्पर्धा (competition) हुन्छ ? अरु कस्ले खरिद गर्छ ?
13. जडीबुटीको खरिदमा तपाईंको सवल पक्ष के हो ?

##### C. HANDLING

###### (प्रशोधन वा खरिद पछि बिक्री सम्म)

1. जडीबुटी किने पछि के गर्नु हुन्छ ? जस्तै सफाई, सुकाई, केलाई, गुणस्तर चेक, अन्य (cleaning, drying, sorting, quality checks, other)
2. यदि माथिका केहि गर्नु हुन्छ भने किन? (probe for buyer requirement, profit, 'custom', other)
3. के तपाईले वित्तीय संस्थाबाट ऋण पाउनु हुन्छ ? (probe for bank overdraft, own savings, informal loans, other)
4. के तपाई जस्ता निर्यातकर्ता (व्यापारी) बीच कुनै सहकार्य छ ? (probe for activity: buying, handling, selling, other)

#### D. SELLING

##### (विक्री)

1. के तपाई बैना/पेशकी लिनु हुन्छ ?
2. कुन कुन जडीबुटीको लागि बैना लिनु हुन्छ ? कुल विक्रीको कति प्रतिशत जति बैना लिनु हुन्छ?
3. बैना लिँदा कुनै सम्झौता गर्नु हुन्छ वा अरु केही (probe for sales of fixed volume, sales as discounted price, payment of interest rate, other) हुन्छ की?
4. के तपाई खुला बजारमा बेच्नु हुन्छ ? (opposite to advance payment)
5. खुला बजारमा के तपाई प्राय एक उही व्यापारीलाई बेच्नु हुन्छ ? किन ? (probe for importance of price, reliability of buyers etc)
6. ढुवानीको खर्च कस्ले बेहोर्छ ? (probe for different categories of buyers, i.e. open market relations or financiers of advance payments)
7. खरिदकर्तासँग उत्पादनको मूल्य कसरी निर्धारण गर्नु हुन्छ (सिजन अनुसार, बजार माग अनुसार आदि) ।
8. जडीबुटीको गुणस्तर अनुसारको मूल्य हुन्छ होला होइन ।
9. खरिदकर्ताहरुबीच तपाईको सामान किन प्रतिस्पर्धा हुन्छ की ?
10. के जिल्लामा प्रशोधनकर्ता छन् ? Names, location? (Note it in diary)
11. के तपाई जडीबुटी प्रशोधनकर्ता लाई बेच्नु हुन्छ ?

#### E. PERMITS AND SELLING

1. जडीबुटी ढुवानी गर्न अनुमति पुर्जी कहाँ बाट लिनु हुन्छ? यदि लिदा शुल्क पनि लाग्छ हैन ?
2. जडीबुटी ढुवानी गर्दा कस्तो अवस्थामा अतिरिक्त शुल्क तिर्नु पर्ला (टेबुल तल) ?
3. भारत, चीन वा अन्य देशमा निर्यात गर्न कहाँबाट अनुमति पत्र लिनु पर्छ ?
4. निर्यातमा कुनै समस्या भोग्नु भएको छ की (probe for bureaucracy, export duties, bribes, import tariffs, changing standards on export markets, etc. on each of the relevant markets)

#### F. CHANGES AND PROSPECTS

1. पछिल्ला १५ वर्षमा जडीबुटीको व्यापारमा कुनै परिवर्तन देख्नु भएको छ ? जस्तै नयाँ प्रजाति, उपलब्धता, मूल्य, मूल्य सूचना आदि ।
2. पछिल्ला १५ वर्षमा तपाईं जडीबुटीको व्यापारबाट खुसी हुनु हुन्छ (आम्दानी) ?
3. जडीबुटीको आपूर्ति (supply) मा केही समस्या (हालको वा हुन सक्ने) देख्नु भएको छ ?
4. जडीबुटीको व्यापार र विक्री प्रणालीमा केही समस्या (हालको वा हुन सक्ने) देख्नु भएको छ ?
5. यस क्षेत्रलाई थप नाफामूलक बनाउन के गर्नु पर्ला ? सम्भावना कतिको छ ?

## 4.4 Regional Wholesaler instrument (qualitative part)

### A. GETTING INVOLVED

- A1. What is your name and your position in the company?
- A2. What is the history of this business? (Probe: knowledge required to start such a business)
- A3. How was finance raised to start the business?
- A4. What if someone would like to start trading MAPs now? How would he/she do? (Probe: required permissions)

### B. BUYING

- B1. Who do you buy from? (Probe for traders (central wholesalers) in Nepal, including location)
- B2. Do suppliers (traders) come to you – or do you go to their place?
- B3. Do you offer advance payments to suppliers? Why or why not? (Probe: if yes, for particular MAPs)
- B4. If advance payments are offered, how do you ensure that you get your money back?
- B5. If advance payments are offered, do you charge any interest rate?
- B6. If advance payments are offered, do you buy at a lower price?
- B7. How do you ensure that your needs/requirements are channelled to the suppliers?
- B8. Do you always buy from the same suppliers? Why or why not?
- B9. Is there any cooperation concerning buying between you and other similar traders?
- B10. Do you encounter any problems in the buying process? (Probe: adulteration)
- B11. How do you know the prices you should pay?
- B12. Do you pay different prices for different qualities? How do you differentiate between qualities?
- B13. Do you know the prices other traders like you are paying?
- B14. How strong is the competition for buying? Do you have a competitive edge?

### C. HANDLING

- C1. What do you do with the products? (Probe for each of the following: cleaning, storing, processing, sorting, packaging)
- C2. If any of these activities: Why do you do that? (Probe for: buyer requirement, profit, and 'customary')
- C3. Do you have access to credit? Informal loans? Bank loan? Other?
- C4. Is there any cooperation concerning handling between you and similar traders (Probe for activities: sharing facilities, exchange of workers, other)?

### D. SELLING

- D1. Do you receive advance payments?
- D2. If yes, specify for which products – and/or estimate share of total sales
- D3. If you get advance payments, what are the conditions? (Probe for: sales of fixed volume, sales at discounted price, payment of interest rate, other)
- D4. Do you sell on the open market?
- D5. On the open market, do you go to the same buyers every year? If yes, why? If no, why not? (Probe for: importance of price, reliability of buyers).
- D6. Who pays for the transportation to the buyers? (Probe for different categories of buyers)
- D7. How do you negotiate prices with buyers? (Probe: fixed for the season?)



- D8. Do you get different prices for different qualities for any of the species that you handle (clean, pack, process, grade)?
- D9. Who are your customers? (Probe for: merchants, processors, retailers, other?)
- D10. Is there a lot of competition among customers who want to buy your products?
- D11. Is there any cooperation concerning selling between you and similar traders (Probe for activities: price agreement, specialisation, volume limitations)

#### E. PERMITS AND RENT-SEEKING

- E1. From where do you have to get the permit to transport MAPs from your store to your customers place? If so, is there a fee?
- E2. Do you need a permit to import MAPs from Nepal?
- E3. Do you need a permit to sell MAPs on the national market?
- E4. Do you need a permit to export MAPS? (Probe for re-export of MAPs)
- E2. When do you have to make extra payments while transporting your products? (Probe for: rent-seeking/bribes)

#### F. CHANGES AND PROSPECTS

- F1. What do you see as the main changes in the MAP trade in the past 15 years? (Probe: from Nepal, products, availability, prices, price information)
- F2. Do you see any problems in the supply of MAPs from Nepal?
- F4. Do you see any problems in the selling MAPs from Nepal?
- F5. What are opportunities for earning more money from MAPs from Nepal?

#### 4.4.1 Regional wholesaler instrument in Hindi (qualitative part) - जड़ीबुटी आर्यातकर्ताके लिए प्रश्नावली

##### A. GETTING STARTED (परिचय)

1. आपका परिचय (नाम, position) ?
2. जड़ीबुटी व्यापारमे कैसे आये ? (जैसे यह व्यापारमे आनेके लिए ज्ञानकी आवश्यकता)?
3. जड़ीबुटी व्यापारके शुरुवाती दिनोंमे आर्थिक व्यवस्थापन (पैसेका जुगाड) कैसे किया ?
4. अगर कोही जड़ीबुटी व्यापार शुरू करना चाहे तो उनको कैसे शुरुवात करना चाहिए ? (जैसे अनुमति पुर्जी, permissions, registration )?

##### B. Buying (खरिद)

1. आप किनसे जड़ीबुटी खरिदते हैं ? (Name of CW from Nepal, Location etc) ?
2. वो लोग समान delivery देते हैं या आप या आपका लोगोंको खुद जाना पड़ता है ?
3. क्या आप उनको (suppliers) advance/ पेशगी देते हो ? अगर हाँ तो क्यु और नहीं तो क्यु नहि ? अगर पेशगी देते हैं तो क्या वो किसी एक जड़ीबुटीके लिए होता है या सबके लिए ?
4. अगर पेशगी देते हैं तो
  - i. पेशगी देने के बाद आपका पैसा, सामान आनेकी शुनिश्चिता कैसे करते हैं?
  - ii. क्या दिए हुए पेशगीमे व्याज लेते हैं ?
  - iii. क्या ऐसेमे समानकी खरिद मूल्य कुछ कम होती है ?
5. आप अपने आवश्यकताकी जड़ीबुटी किनसे कितना खरिना हे, कैसे सुनिश्चित करते हैं? (channelise)?
6. क्या आप हमेशा एक ही व्यापारीसे खरिद करते हैं ? अगर हाँ तो क्यु और नहीं तो क्यु ?
7. क्या आप यहाँके और व्यापारीसे खरिदनेके वक्त किसी सलाह करते है cooperation ?
8. खरिदनेमे क्या कोही दित्तत है (जैसेकी मिसावट, agreed किए माल न आना आदि) ?
9. जड़ीबुटीकी कीमत आपको कैसे पता लगाती हैं ?
10. अलग quality की जड़ीबुटीके लिए मूल्य भी अलग हि होते होंगे ? quality का पता कैसे चलेगा ?
11. यहाँके और व्यापारी कैसे खरिद करते हैं, क्या आपको पता होता है ?
12. आपको दुसरे व्यापारीकी खरिद कीमतका पता कैसे चलती है ?
13. जड़ीबुटी खरिदनेमे कितना प्रतिस्पर्धा (competition) होती है ? आपका सबल पक्ष क्या है ?

##### C. Handling

1. जड़ीबुटी खरिदनेके बाद आप क्या करते है ? जैसे साफ करना, सुखाना, प्रशोधन, प्याकेजिंग
2. अगर वो सब करते हैं तो क्यु ?(probe for buyer requirement, profit, 'customary', other)
3. क्या आप Bank से loan लेते हैं ?( Informal loans? Bank loan? Other?)
4. खरिदारीके बाद किए जाने वाले कार्योंमे और व्यापारियोंके साथ कोही सहकारीता है । Probe for activities: sharing facilities, exchange of workers, other)

#### D. Selling (बिक्री)

1. क्या आपको पेशगी मिलती है ?
2. अगर पेशगी मिलती है तो किस किस जड़ीबुटी के लिए ? कुल बिक्री की कितना प्रतिशत पेशगी मिलती है ?
3. किस परिस्थिति या संभावित के आधार पर आपको पेशगी मिलती है ? (probe for sales of fixed volume, sales as discounted price, payment of interest rate, other)
4. क्या आप खुला बाजार में भी बेचते हैं ? (opposite to advance payment)
5. खुला बाजार में क्या आप प्रायः एक ही व्यापारी से लेन देन करते हैं ? क्यों ? (probe for importance of price, reliability of buyers etc)
6. परिवहन लागत (Transportation cost) कौन देता है ? (probe for different categories of buyers, i.e. open market relations or financiers of advance payments)
7. खरिदकर्ता से उत्पादन की कीमत कैसे निर्धारण होगा ? (सिजन के तहत, बजार माग तहत आदि) ।
8. जड़ीबुटी के अलग गुणस्तर अनुसार कीमत अलग ही होता होगी नहीं ? (clean, pack, process, grade)
9. आपकी खरिदकर्ता ज्यादातर कौन है ? (Probe for: merchants, processors, retailers, other?)
10. खरिदकर्ताओं के बीच आपकी समान खरिदने में कितनी competition होती है ?
11. आप और इसी तरह के अन्य व्यापारियों के बीच बेचने के विषय में किसी भी सहयोग (cooperation) है ? (Probe for activities: price agreement, specialisation, volume limitations)

#### E. Permits and Rent Seeking

1. आपकी गोदाम से आपकी खरिदकर्ता की दफ्तर तक जड़ीबुटी ढुवानी करने कि आयात की अनुमति कहाँ से मिलती है ? यदि लेते हो तो शुल्क भी देते हो ?
2. क्या नेपाल से जड़ीबुटी खरिदने के लिए (आयात की) अनुमति चाहिए ?
3. भारत पर बेचने के लिए अनुमति की जरूरत है ?
4. निर्यात के लिए अनुमति की जरूरत है ? (Probe for re-export of MAPs)
5. जड़ीबुटी ढुवानी के वक्त, किसी अतिरिक्त शुल्क (रिश्वत) देना पड़ता है ? (Probe for: rent-seeking/bribes)

#### F. Changes and Prospects

1. पिछले १५ सालों में जड़ीबुटी व्यापार में कैसा परिवर्तन देखने को मिला ? जैसे : from Nepal, products, नयी प्रजाति, उपलब्धता, कीमत, कीमत के बारे में जानकारी आदि । ?
2. नेपाल से जड़ीबुटी खरिद (supply) में कोई परेशानि ?
3. नेपाल से जड़ीबुटी बेचने में कोई परेशानि ?
4. आखिर में, नेपाल से खरिदी हुई जड़ीबुटी से कैसे ज्यादा पैसा कमाया जा सकता है ?



#### 4.4.2 Regional wholesaler instrument in Chinese (qualitative part)

### 定性问卷

#### A. 开始介绍

A1. 您叫什么名字？

A2. 您什么时候开始您的生意？

A3. 开始从事这个生意的困难是什么？（注意询问生意初始资金的来源方式）

A4. 为什么呢？（注意询问是否有从事这个生意的经验，是如何了解这个生意的）

A5. 如果现在有人想从事这个生意，该如何开始或者如何做，注意些什么了？

#### B. 收购

B1. 你从谁处收购药材？

B2. 是药材供应商到你这里来销售给你吗？

B3. 你是否预付资金给供应药材给你的区域性商人或其他供应商？为什么？

B4. 如果提供预付款，你是否要收取预付款所产生的利息？利率是多少？

B5. 如果提供预付款，你是否能以更低的价格收购药材？

B6. 你如何保证你的需求或要求能够顺利传达到区域性的商人或你的供应商？

B7. 你是否总是从同一个区域性商人或供应商购买药材？为什么？

B8. 你们药材批发商之间会有合作吗？

B9. 在收购药材的过程中碰到过困难或问题吗？（询问是否有药材掺假）

**B10. 你如何了解药材收购价格信息？**

**B11. 你是否根据不同等级或质量的药材支付不同的价格？或者是支付统一价；你如何鉴别不同等级或质量的药材？**

**B12. 你们支付不同价格不同的品质吗？你如何区分品质？**

**B13. 你了解其他药材贸易商的收购价格吗？**

**B14. 收购药材竞争强吗？**

### **C. 加工**

**C1. 你对收购的药材采取任何处理或加工措施吗？（一个一个询问是否采取以下处理或加工方式：清洗、储藏、加工、分类、包装）**

**C2. 你为什么采取这种处理或加工措施了？（如有有上述任何处理或加工措施）（注意询问对药材的要求、习惯处理方式、处理或加工利润等）**

**C3. 如果你对所收购的药材采取一定处理或加工措施（清洗、包装、加工、分级等），会增加药材的出售价格吗？会对不同质量（等级）的药材分级拟定不同的价格对外销售吗？或者统一价销售？**

**C4. 你有获得贷款的机会吗？民间借贷或银行贷款？**

**C5. 你们药材批发商之间是否会有合作？比如在药材收购过程中、在药材处理或加工工程、在对外销售过程中等等）**

### **D. 销售**

**D1. 你是否要收到预付款才对外发送或将药材销售出去？**

**D2. 如果是，哪些药材你需要先收到预付款才发送或销售药材？接收预付款占你对外销售药材的比例大概多少？（品种和金额比例）**

**D3. 如果你采取接收预付款的方式对外销售药材，你会给予什么优惠条件？（例如按时按量供应药材、给予折扣、支付预付款产生的利息等）**

**D4. 你是否在一个公开市场的环境中对外销售药材？**

D5. 在公开市场上，是否经常将药材销售给相同的买家们？如果是，为什么，如果不是，为什么？  
( 询问价格、拥有固定的销售渠道、买家等的重要性 )

D6. 药材运输到买方的运费由谁承担？( 询问不同销售方式运费的承担方式，比如收到预付款才发货或销售、在公开市场上销售等 )

D7. 如何与买家进行价格谈判？( 每个销售季/年度以固定的价格销售？ )

D8. 在想要购买你药材的买家之间会存在竞争吗？

D9. 在你所在区域（城市、省份）有药材加工商、厂吗？他们名字、地址？

## **E. 许可和寻租行为**

E1. 运输药材需要行政许可吗，比如办理许可证？如果需要办理许可证，需要缴纳费用吗？

E2. 在什么时候或情况下你需要为运输药材支付额外的费用？( 寻租 )

请提供你在药材收购、运输和销售过程中（包括尼泊尔、中国）需要办理的行政许可或许可证清单。在尼泊尔之外销售药材你遇到过任何困难、问题和障碍吗？如果有，是什么困难、问题和障碍？

## **F.变化（趋势）及前景**

F1. 过去15年药材贸易的主要变化或趋势是什么？( 产品品种、产品供给或产量、价格、市场信息等 )

F2. 在过去15年中你从事药材贸易的利润或收入的变化或趋势如何？

F3. 药材的供给或供给体系有什么问题吗？( 药材收购过程 )

F4. 药材的销售或销售体系有什么问题吗？( 药材销售过程中 )

F5. 在药材贸易这个行当，如果要赚钱更多的钱、更大的利润，你认为关键是什么？或者有什么机会？

## 4.5 Processor instrument (qualitative part)

### A. GETTING INVOLVED

- A1. What is your name?
- A2. When did you start your business?
- A3. Was it difficult to get started? (probe for mode of financing of initial investment)
- A4. Why? (did he/she come from the business, any experience?) (how did he/she get the knowledge to establish the business?).
- A5. What if someone would like to start trading MAPs now? How would he/she do?
- A6. If cooperative: How did you start? Why? How are you organized? (Rules? Fees? Membership? )

### B. BUYING

- B1. Which Nepalese suppliers are you buying from? (probe for cooperatives, central wholesalers, district traders, individual harvesters; approximate shares?)
- B2. Do suppliers come to your place or do you go to their place? Why?
- B3. Do you offer advance payments to suppliers? All? Why or why not? (probe for different types of suppliers – see B1)
- B4. If advance payments are offered, how do you ensure that you get your money back?
- B5. If advance payments are offered, do you charge any interest rate?
- B6. If advance payment is offered, do you buy at a lower price?
- B7. How do you ensure that your needs/requirements (in volume terms) are channeled to the suppliers? (probe for different types of suppliers – see B1)
- B8. Do you buy from the same suppliers in season after season? Why?
- B9. Are trust and relationships important or is it only price that matters when you look for suppliers?
- B10. Do you encounter any problems in the buying process? (probe for adulteration, etc.)
- B11. How do you know the prices you should pay?
- B12. Do you pay different prices for different qualities? How do you distinguish between qualities (high and low)?
- B13. Do you know the prices other buyers of MAP are paying?
- B14. What about competition? Is it strong? Who else is buying?
- B15. Are there other processors in the district? Names, location?
- B16. What do you consider to be your competitive edge?
- B17. Do you also buy (import) directly from suppliers outside Nepal? (probe for shares (in terms of value of total purchase) on country basis)
- If yes, please go through B3-B12 for each of the main countries from which supplies are imported

### C. HANDLING

- C1. What is the product portfolio? (probe for types of products)
- C2. Do you produce different qualities of the same product?
- C3. Given the machinery and human resources that you have, what would be the ideal volume of raw material supply per year (for optimizing profits)? (probe for actual utilization rate)

\*\*\*



For each main component of machinery (add a, b, c, etc. to Q-number for each), specify:

C4. What is the nature of technology (advanced, intermediate, low, other.)

C5. What is the reliability? (probe for frequency of break downs, supply of spare parts)

C6. Have you carried out any improvements or replacement of main machinery components?

C7. Are you processing MAPs for others without taking possession of raw materials (i.e. do you rent out your machinery)? (probe for % of total production value)

\*\*\*

C8. What is the cost composition (probe for % of raw material, other components, salaries, energy)

C9. Are there any commercial by-products?

C10. Do you have any environmental problems (probe for discharge water, air pollution, noise, etc.)

C11. Do your products have to comply with any standards (FSC, organic, etc.)?

C12. Do you have your own storage facility? (probe for cause, capacity, location)

C13. If no involvement in storage: why is it not necessary? (probe for leased, purchase of service, other)

C14. Do you carry out any kind of packaging? (probe for material/type of packaging)

C15. How are finished products transported to buyers? (probe for own, leased, purchased service, other)

C16. Who pays for transport to buyers? (if own cost, probe for share of production costs)

C17. Who checks the quality of the processed product? (probe for inspection party, disagreements)

#### D. SELLING

D1. Where do you sell your products – to which countries? (probe for market shares – total sales, not individual product basis)

D2. What is the profitability of exports compared to the domestic market? (probe for higher, same, lower – on product basis)

D3. Is there significant differences between the selling practices on the markets you sell to? (probe for advance payments, open market, consistency of buyers)

- If yes, go through each of the main markets for D4-D8

D4. Do you receive advance payment? (probe for names and/or location of creditor)

D5. If yes, specify for which products – and/or estimate share of total sales.

D6. If you get advance payment, what are the conditions? (Probe for sales of fixed volume, sales at discounted price, payment of interest rate, other)

D7. Who do you sell to on the open market (opposite to advance payment)? (probe for names and/or location of buyers)

D8. On the open market, do you sell to the same buyers every year? If yes, why? If no, why? (probe for importance of price, reliability of buyers, etc.).

D9. Who pays for the transportation to the buyers? (probe for different markets)

D10. How do you negotiate prices with buyers? (fixed for the season? variation between markets?)

D11. Is there a lot of competition among traders who want to buy your products?

#### E. PERMITS AND RENT-SEEKING

E1. Do you need a permit to buy MAPs? If so, is there a fee?

E2. Do you need a permit to process MAPs? If so, is there a fee?

- E3. Do you need a permit to sell processed MAPs in Nepal? If so, is there a fee?
- E4. From whom do you need a permit to export processed MAP to India? China? Other countries?
- E5. Do you encounter any problems when you export processed MAPs? (probe for bureaucracy, export duties or subsidies, bribes, import tariffs, changing standards on export markets, etc. on each of the relevant markets – see E4)

#### F. CHANGES AND PROSPECTS

- F1. What do you see as the main changes in MAP harvesting and trade practices in the past 15 years? (probe for species, availability, supply consistency, prices, price information, etc.).
- F2. What do you see as the main changes in MAP processing and selling practices in the past 15 years? (probe for quality of equipment, labour requirements, prices, market preferences, etc.).
- F3. How has your income from MAP processing changed in the past 15 years?
- F4. Has your product portfolio changed?
- F5. Do you see any problems in the supply system?
- F6. Do you see any problems in the selling systems?
- F7. What are opportunities for earning more money in this business?

#### 4.5.1 Processor instrument in Nepalese (qualitative part) - प्रशोधनकर्ताको लागि प्रश्नावली

##### A. GETTING STARTED

(परिचय)

1. तपाईंको नाम ?
2. जडीबुटी प्रशोधन कहिलेदेखि शुरु गर्नु भयो ?
3. जडीबुटीको प्रशोधन शुरु गर्दा कुनै समस्या त परेन (जस्तै आर्थिक व्यावस्थापन) ?
4. गान्हो भएको भए किन ? (व्यापारमा नयाँ, अनुभवको कमी आदि) । जडीबुटीको प्रशोधन सम्बन्धि ज्ञान कहाँबाट पाउनु भयो?
5. यदि कसैले कुनै जडीबुटी प्रशोधन शुरु गर्न चाहेमा के र कसरी गर्नु पर्ला ?
6. यदि सहकारी भएमा: किन र कसरी शुरु गर्नु भयो ? सहकारीको संरचना, सदस्यता, शुल्क, नीति आदिवारे केही भन्नुहुन्छ की?
7. के तपाईं पहिले कुनै प्रशोधन कम्पनीको **partner** हुनुहुन्थ्यो ? यदि हुनुहुन्थ्यो भने **partnership** कसरी चलेको थियो ? **partnership** का फाइदा र बेफाइदा के के हुन् ।

##### B. BUYING

(खरिद)

1. तपाईंले को सँग जडीबुटी खरिद गर्नु हुन्छ (संकलक, कृषक, जडीबुटी व्यापारी, सहकारी, केन्द्रीय व्यापारी)
2. बिक्रेताहरुले सामान आफैं ल्याइदिन्छन् कि तपाईं आफैं लिन जानु पर्छ ।
3. तपाईंले बैना दिनु हुन्छ ? सबैलाई ? किन दिनुहुन्छ वा दिनुहुन्न (संकलक, कृषक, जडीबुटी व्यापारी, सहकारी, केन्द्रीय व्यापारी)?
4. बैना दिएको अवस्थामा
  - i. बैना दिएपछि सामान आउँछ भन्ने **Guarantee** के छ ?
  - ii. बैना दिएपछि बैना रकमको व्याज लिनु हुन्छ ?
  - iii. त्यस्तो सामानको मूल्य अलि फरक (तलमाथि) हुन्छ की ?
5. तपाईंले आफ्नो आवश्यकता अनुसारको जडीबुटी को सँग कति खरिद गर्ने, कसरी सुनिश्चित गराउनु हुन्छ ?
6. तपाईंले सधैं उही व्यापारीबाट मात्र सामान खरिद गर्नु हुन्छ? किन?
7. जडीबुटी खरिद गर्दा मूल्य मात्र आधार हुन्छ कि सम्बन्ध र विश्वासको पनि आधार हुन्छ ?
8. जडीबुटी खरिद गर्दा कुनै समस्या भोग्नुभएको छ की (मिसावट आदि)?
9. खरिद गर्ने जडीबुटीको मूल्यबारे कसरी थाहा पाउनु हुन्छ ?
10. फरक गुणस्तरको जडीबुटीको मूल्य पनि फरक नै हुन्छ होला, होइन ? जडीबुटीको गुणस्तर कसरी छुट्याउनु हुन्छ ?
11. अन्य प्रशोधनकर्ताले खरिद गर्ने जडीबुटीको मूल्य तपाईंलाई थाहा हुन्छ ?
12. जडीबुटीको खरिदमा प्रशोधनकर्ताहरुबीच कतिको प्रतिस्पर्धा (**competition**) हुन्छ ? अरु कसले खरिद गर्छ ?
13. यो जिल्लामा अन्य प्रशोधनकर्ताहरु छन् ? नाम र ठेगाना । (**Note it in the diary**)
14. खरिद गर्दा तपाईंको सवल पक्ष के हो ?

15. के तपाई जडीबुटीको आयात पनि गर्नु हुन्छ ? यदि आयात गर्नु हुन्छ भने कति (If yes, then repeat from question 3 to 10) ?

### C. HANDLING

(प्रशोधन अथवा खरिद पछि बिक्री नगरेसम्म)

1. तपाईका उत्पादनहरु के के हुन ?
2. के तपाई एकै उत्पादनका विभिन्न गुणस्तरीय सामग्री उत्पादन गर्नु हुन्छ ? (do you produce different qualities of the same product)
3. तपाईसँग भएको machine र human resources को आधारमा तपाईलाई वार्षिक कति जति कच्चा पदार्थ आवश्यक पर्छ ?
4. मेशिनको पाटपुर्जा बारे जानकारी (प्रत्येक मेशिनको लागि फरक फरक)
  - i. मेशिन अत्याधुनिक, आधुनिक, ठिकै वा लोकल प्रविधिको हो ?
  - ii. मेशिनले कतिको काम गरिरहेको छ (बिग्रने, पाटपुर्जा फेर्नु पर्ने आदि)?
  - iii. तपाईले यस मेशिनको मुख्य पाटपुर्जा फेर्नु भएको वा यसको मर्मत गर्नु भएको छ की ?
  - iv. के तपाईले यो मेशिन भाडामा पनि लगाउनु हुन्छ ? भाडा वापत के लिनु हुन्छ ? यदि गर्नु हुन्छ भने कति जति ?
5. के तपाईको उत्पादनबाट कुनै commercial by-product पनि हुन्छ ?
6. तपाईको उद्योगले कुनै वातावरणीय प्रदुषण गरेको त छैन (हावा, पानी, आवाज प्रदुषण आदि ?
7. के तपाईको उत्पादनहरुलाई केहिसँग मापन गर्नुपर्छ ?(FSC, Organic, etc)
8. के तपाईको आफ्नै जडीबुटी भण्डार गर्ने ठाउँ छ (कारण, capacity, location) ?
9. यदि आफ्नै भण्डार छैन भने किन ? आवश्यक नभएर की ? (probe for leased, purchase of service, other)
10. के तपाई कुनै किसिमको packaging गर्नु हुन्छ ? (probe for material/type of packaging)
11. उत्पादित सामग्री कसरी खरिदकर्ताकहाँ पुर्‍याउनु हुन्छ ? (आफ्नै वा भाडाको गाडी, ट्रक, आफ्नै खर्चमा वा कसरी ?
12. तपाईको प्रशोधित उत्पादनको गुणस्तर कसले निरिक्षण गर्छ (probe for inspection party, disagreements)

### D. SELLING

(बिक्री)

1. तपाईका उत्पादनहरु कहाँ कहाँ बेच्नु हुन्छ, कुन कुन देश ? (probe for market shares – total sales, not individual product basis)
2. तपाईलाई बढी फाइदा निर्यातमा छ कि घरेलु बजारमा? (probe for higher, same, lower – on product basis)
3. पछिल्ला समयमा जडीबुटी बिक्रीमा परिवर्तनहरु (जस्तै बैना, बजारको फैलावट, खुला बजार, खरिदकर्तामा एकरूपता आदि) देखापरेको छ ।

4. के तपाई बैना लिनु हुन्छ ? (बैना दिनेको नाम र ठेगाना) (Note it in the diary)
5. कुन कुन जडीबुटीको लागि बैना लिनु हुन्छ ? कुन बिक्रीको कति प्रतिशत जति बैना लिनु हुन्छ?
6. बैना लिँदा कुनै सम्झौता (agreement) गर्नु हुन्छ वा अरु केही (probe for sales of fixed volume, sales as discounted price, payment of interest rate, other) हुन्छ की?
7. खुला बजारमा कस्ताई बेच्नु हुन्छ ? खरिदकर्ताको नाम र ठेगाना ।
8. खुला बजारमा के तपाई प्राय एक उही व्यापारीलाई बेच्नु हुन्छ ? किन ? (probe for importance of price, reliability of buyers etc)
9. खरिदकर्ताले के मा हुवानी गर्दछ - आफ्नै गाडी भाडाको गाडी वा अन्य ।
10. हुवानीको खर्च कस्तो बेहोर्छ ?
11. खरिदकर्तासँग उत्पादनको मूल्य कसरी निर्धारण गर्नु हुन्छ (सिजन अनुसार, बजार माग अनुसार आदी) ।
12. खरिदकर्ताहरूबीच तपाईको सामान किन प्रतिस्पर्धा हुन्छ की ?

#### E. PERMITS AND RENT-SEEKING

1. के जडीबुटी खरिद गर्न अनुमति पुर्जी (permits) चाहिन्छ ? यदि चाहिन्छ भने शुल्क पनि लाग्छ हैन ?
2. जडीबुटी प्रशोधन गर्न अनुमति पुर्जी (permits) चाहिन्छ ? यदि चाहिन्छ भने कति शुल्क लाग्छ ?
3. प्रशोधित जडीबुटी नेपालभित्र बेच्न अनुमति पुर्जी (permits) चाहिन्छ ? यदि चाहिन्छ भने शुल्क कति लाग्छ ?
4. प्रशोधित जडीबुटी भारत, चीन वा अन्य राष्ट्रमा निर्यात गर्न अनुमति पुर्जी (permits) चाहिन्छ ?
5. प्रशोधित जडीबुटी निर्यात गर्दा कुनै समस्या भोग्नु भएको छ ? (कर्मचारीतन्त्र, भन्सार शुल्क, अतिरिक्त शुल्क, आयात शुल्क, आयात गर्ने राष्ट्रको गुणस्तर मान)

#### F. CHANGES AND PROSPECTS

1. पछिल्ला १५ वर्षमा जडीबुटी संकलन र व्यापार प्रणालीमा कुनै परिवर्तन देख्नु भएको छ ? जस्तै उपलब्धता, आपूर्ति, मूल्य, मूल्य सूचना आदि ।
2. पछिल्ला १५ वर्षमा जडीबुटी प्रशोधन र बिक्रीमा कुनै परिवर्तन देख्नु भएको छ ? जस्तै quality of equipment, labour requirements, price, market preferences आदि ।
3. तपाई जडीबुटी प्रशोधनको व्यापारबाट खुसी हुनु हुन्छ (आम्दानी) ?
4. तपाईको उत्पादनमा विविधता आएको छ की?
5. जडीबुटीको आपूर्ति (supply) मा केही समस्या (मिसावट, अति र समय अगाडी संकलन आदि) देख्नु भएको छ ?
6. प्रशोधित जडीबुटीको प्रशोधन र बिक्री प्रणालीमा केही समस्या देख्नु भएको छ ?
7. यस क्षेत्रलाई थप नाफामूलक बनाउन के गर्नु पर्ला ? सम्भावना कतिको छ ?



## 4.6 Tibet-border trade survey (qualitative part)

This note provides guidelines for conducting the qualitative interviews that are part of the Tibet-border trade survey. The objectives of the Tibet-border trade survey are:

1. To quantify the MAP trade going directly to Tibet from border districts in Nepal, with particular focus on the smaller scale trade from traders and harvesters. (The larger scale export is captured through the central wholesaler data collection instrument).
2. To qualitatively understand the nature of the smaller scale trade directly from harvesters and traders to Tibet.

**As the Tibet-border trade survey is exclusively focused on understanding the Nepal to Tibet trade, all qualitative interviews must be focused on this trade only** (i.e. not the south-oriented trade towards Nepal and India).

All interviews are recorded (using microphones attached to tablet), transcribed in Nepalese and translated into English. Analysis of transcripts will be undertaken using Nvivo.

The general advice on conducting qualitative interviews in the Technical Guidelines is included here for easy reference. It is recommended, when relevant, to collect qualitative data after the quantitative data. This ensures a more informed discussion between the respondent and interviewer during the qualitative questioning.

When collecting qualitative data, remember to:

1. Stimulate conversation: listen carefully to what is being said, probe, nudge, ask for clarifications, sum up what is being said to make sure that you understand the answers correctly.
2. Accept reflective silence. Sometimes, the respondents need some time to answer.
3. Be ready to re-state or elaborate questions if necessary. Make sure that the respondent understands the questions correctly.
4. Use non-verbal techniques (e.g. nodding) and make the respondent feel like the information he/she is giving is interesting and valuable.
5. Avoid sensitive issues in early phases of the interview and move on if necessary. You can always come back to the most difficult questions at the end of the interview.
6. Provide 'space' for questions from the respondent at the end of the interview.

Moreover, the following points are important to consider when conducting focus group discussions:

1. At the onset of the discussion, make sure that all participants are introduced to each other.
2. The key role of the interviewer (moderator) is to facilitate interactions between participants, to sum up what is being said, and to ensure progress in the discussion.
3. Be aware of misinterpretation of consensus; make sure that all voices (and not only "powerful voices") are heard.

4. Ensure that the traders or DFO staffs do not take part in the focus group discussions with harvesters.
5. Provide incentives as agreed with FECOFUN (e.g. cash, kind, snacks, etc.).

### **Harvester instrument**

This will be done as a group discussion; all participants should be involved in harvesting MAPs that are subsequently traded to Tibet (by harvesters themselves or others). After gathering the participants please ask them to briefly introduce themselves. Remember to explain the 'rules' (open discussion, important that all are contributing) and explain the structure of the questions (i.e. sets of questions that follow the work processes, winding up with comparison with earlier conditions).

**Note the addition of the new questions in Section D (D16-18). These questions should only be asked in harvester interviews in VDCs in which passes to Tibet are located.**

Remember that the purpose of these interviews is to understand the trade to Tibet, not the southern trade. Hence the below questions should be discussed explicitly in relation to the Tibet trade only.

#### **A. GETTING INVOLVED**

- A1. Do you collect or cultivate?
- A2. Why did you get involved in MAP collection or cultivation?
- A3. If someone new would want to start collecting or cultivating MAPs, how would he/she start?
- A4. What would they have to know (permits to collect, etc.)?
- A5. Do the same conditions apply for men and women when starting?

#### **B. HARVESTING**

- B1. How would new collectors know where to collect and what to collect? (NB: this question is not relevant for domesticators)
- B2. What kind of exchange of advice/counselling for harvesting (between collectors; about timing, technique, where to go, tools)?
- B3. How do you acquire knowledge?

#### **C. HANDLING**

For each product, specify:

- C1. After harvest, what do you do? (cleaning, drying, sorting, quality checks, other).
- C2. Are there different types of qualities/grades?
- C3. If yes, how do you differentiate between different qualities? (probe for indications (large leaves, long roots, etc.))
- C4. Do you get paid different prices for different qualities?



#### D. SELLING

- D1. Is there any kind of exchange of advice/counselling among harvesters about selling (about timing, where to go, etc.)? (Hint: this is about the flow of knowledge)
- D2. Can you list the buyers which you are aware of?
- D3. Do you go to the same buyers every year? If yes, why? If no, why? (probe for price, reliability of buyer, etc.).
- D4. What characterizes a trader with a good reputation?
- D5. What characterizes a trader with a bad reputation?
- D6. Does reputation of the trader matters when you choose to sell to someone?
- D7. Are you paid in cash or in kind?
- D8. Is the full amount paid at once or in different payments?
- D9. Have you ever received advance payments? (probe for 1) kind or cash, and 2) names and/or location of person offering advance payment)
- D10. Under what conditions have you received advance payments? (probe for interest rate, discounted price and fixed volume sales, other)
- D11. What would happen to you if you don't sell the MAPs to the person from whom you got the advance payment?
- D12. What do you prefer: advance payments or choosing your buyer after harvest?
- D13. Do you get a fair price? Why or why not (tell why if you think you are not getting a fair price)?
- D14. Are there any MAP trading cooperatives in your village or nearby?
- D15. Do you sell to them? Why or why not?
- D16. How many harvesters cross the border annually to Tibet to sell MAPs?
- D17. Do harvesters going to sell in Tibet: (i) only sell their own harvested MAPs? (ii) Do they bring MAPs to sell on behalf of other harvesters? If yes, are they paid for this? (iii) Do they buy from other harvesters and then sell to make money?
- D18. Do Chinese/Tibetan buyers come into Nepal to buy MAPs directly from harvesters? How many on annually? If yes, then what products?

#### E. PERMITS AND RENT-SEEKING

- E1. Under what circumstances do you have to pay extra payments while harvesting or transporting your products?

#### F. CHANGES AND PROSPECTS

- F1. What do you see as the main changes in MAP harvesting and trade to Tibet in the past 15 years? (age, sex of collectors, species, availability, prices, price information; have you benefitted from infrastructural developments such as road building in Tibet or Nepal, have you benefitted from new technology such as the use of cell phones, etc.).
- F2. How has the contribution of MAPs to your household income changed?
- F3. What do you see as main problems in this business?
- F4. Will you collect next year? Why or why not?
- F5. Do you want your children to do that in the future?
- F6. Why don't you generate the same income from other activities?
- F7. What are opportunities for earning more money in this business?

## Trader instrument

This will be done with all traders involved in trading MAPs to Tibet. Remember to explain the 'rules' (open discussion) and explain the structure of the questions (i.e. sets of questions that follow the work processes, winding up with comparison with earlier conditions).

Remember that the purpose of these interviews is to understand the trade to Tibet, not the southern trade. Hence the below questions should be discussed explicitly in relation to the Tibet trade only.

### A. GETTING INVOLVED

- A1. What is your name?
- A2. When did you start your business?
- A3. Was it difficult to get started? (probe for mode of financing of initial investment)
- A4. Why? (did he/she come from the business, any experience?) (how did he/she get the knowledge to establish the business?).
- A5. What if someone would like to start trading MAPs now? How would he/she do?
- A6. If cooperative: How did you start? Why? How are you organized? (Rules? Fees? Membership? )

### B. BUYING

- B1. Who do you buy from – village-level traders or individual harvesters?
- B2. Do harvesters/village-level traders come to your place or do you go to their place? Why?
- B3. Do you offer advance payments to harvesters? All? Why or why not?
- B4. Do you offer advance payments to village-level traders? All? Why or why not?
- B5. If advance payments are offered, how do you ensure that you get your money back?
- B6. If advance payments are offered, do you charge any interest rate?
- B7. If advance payment is offered, do you buy at a lower price?
- B8. How do you ensure that your needs/requirements (in volume terms) are channelled to the harvesters or sub-local traders?
- B9. Do you buy from the same harvesters/sub-local traders in season after season? Why?
- B10. Do you encounter any problems in the buying process? (probe for adulteration, etc.)
- B11. How do you know the prices you should pay?
- B12. Do you pay different prices for different qualities? How do you distinguish between qualities (high and low)?
- B13. Do you know the prices that other district traders are paying?
- B14. What about competition for supplies of MAPs? Is it strong? Who else is buying?
- B15. What is your competitive edge?

### C. HANDLING

- C1. What do you do with the products? (probe for each of the following: cleaning, processing, sorting, packaging, storing)
- C2. If any of these activities: Why do you do that? (probe for buyer requirement, profit, 'custom', other)
- C3. Do you get different prices for different qualities for any of the species that you handle (cf. B12)?

- C4. Do you have access to credit? (probe for bank overdraft, own savings, informal loans, other)  
C5. Is there any cooperation between traders? (probe for activity: buying, handling, selling, other)

#### D. SELLING

- D1. Do you receive advance payment?  
D2. If yes, specify for which products – and/or estimate share of total sales.  
D3. If you get advance payment, what are the conditions? (Probe for sales of fixed volume, sales at discounted price, payment of interest rate, other)  
D4. Do you sell to on the open market (opposite to advance payment)?  
D5. On the open market, do you go to the same buyers every year? If yes, why? If no, why? (probe for importance of price, reliability of buyers, etc.).  
D6. Who pays for the transportation to the buyers? (probe for different categories of buyers, i.e. open market relations or financiers of advance payments)  
D7. How do you negotiate prices with buyers? (fixed for the season?)  
D8. Is there a lot of competition among traders who want to buy your products?  
D9. Are there processors in the district? Names, location?  
D10. Do you sell any MAPs to processors? (probe for importance)

#### E. PERMITS AND RENT-SEEKING

- E1. From where do you have to get the permit to transport the MAPs? If so, is there a fee?  
E2. When do you have to pay extra payments while transporting your products? (Probe for bribes (rent-seeking))

#### F. CHANGES AND PROSPECTS

- F1. What do you see as the main changes in MAP harvesting and trade practices to Tibet in the past 15 years? (age, sex of collectors, products, availability, prices, price information, have you benefitted from infrastructural developments such as road building in Tibet or Nepal, have you benefitted from new technology such as the use of cell phones, etc.).  
F2. How has your MAP income changed in the past 15 years?  
F3. Do you see any problems in the supply system?  
F4. Do you see any problems in the selling systems?  
F5. What are opportunities for earning more money in this business?

#### 4.6.1 Tibet-border trade survey in Nepalese (qualitative part)

##### Trader instrument (जडीबुटी व्यापारीको लागि प्रश्नावली )

###### A. GETTING STARTED

(परिचय)

1. तपाईंको नाम ?
2. जडीबुटी व्यापार कहिलेदेखि शुरु गर्नु भयो ?
3. जडीबुटीको व्यापार शुरु गर्दा कुनै समस्या त परेन (जस्तै आर्थिक व्यवस्थापन) ?  
५ गाह्रो भएको भए किन ? (व्यापारमा नयाँ, अनुभवको कमी आदि)
4. जडीबुटीको व्यापार सम्बन्धि ज्ञान कहाँबाट पाउनु भयो?
5. यदि कसैले कुनै जडीबुटी व्यापार शुरु गर्न चाहेमा के र कसरी गर्नु पर्ला ?
6. यदि सहकारी भएमा: किन र कसरी शुरु गर्नु भयो ? सहकारीको संरचना, सदस्यता, शुल्क, नीति आदिबारे केही भन्नुहुन्छ की?

###### B. BUYING

(खरिद)

1. तपाईंले को सँग जडीबुटी खरिद गर्नु हुन्छ (संकलक, कृषक, स्थानिय जडीबुटी व्यापारी, सहकारी )
2. बिक्रेताहरुले सामान आफैं ल्याइदिन्छन् कि तपाईं आफैं लिन जानु पर्छ ।
3. के तपाईंले संकलक, कृषकलाई **बैना** दिनु हुन्छ ? कति जति? किन ?
4. के तपाईंले स्थानिय जडीबुटी व्यापारीलाई **बैना** दिनु हुन्छ ? कति जति ? किन ?
5. बैना दिएको अवस्थामा
  - i. बैना दिएपछि सामान आउँछ भन्ने **Guarantee** के छ ?
  - ii. बैना दिएपछि बैना रकमको व्याज लिनु हुन्छ ?
  - iii. त्यस्तो सामानको मूल्य अलि फरक (तलमाथि) हुन्छ की ?
6. तपाईंको आवश्यकता अनुसारको जडीबुटी औसतमा को (संकलक, कृषक, स्थानिय जडीबुटी व्यापारी, सहकारी ) बाट कति लिनु हुन्छ ?
7. खरिद गर्ने जडीबुटीको मूल्यबारे कसरी थाहा पाउनु हुन्छ ?
8. जडीबुटीको गुणस्तर कसरी छुट्याउनु हुन्छ । फरक गुणस्तरका जडीबुटीको मूल्य पनि फरक नै हुन्छ होला, होइन त?
9. अन्य व्यापारीले खरिद गर्ने जडीबुटीको मूल्य तपाईंलाई थाहा हुन्छ ?
10. जडीबुटीको खरिदमा व्यापारीहरूबीच कतिको प्रतिस्पर्धा (**competition**) हुन्छ ? अरु कस्ले खरिद गर्छ ?
11. (**What is your competitive edge**) खरिद गर्दा तपाईंको सबल पक्ष के हो ?

###### C. HANDLING

(प्रशोधन / किने पछि विक्री अघि सम्म)

1. जडीबुटी किने पछि के गर्नु हुन्छ ? (जस्तै सफाई, सुकाई, केलाई, गुणस्तर चेक, अन्य (cleaning, drying, sorting, quality checks, other))
2. यदि माथिका केहि गर्नु हुन्छ भने किन? (probe for buyer requirement, profit, 'custom', other)
3. यसरी जडीबुटीको गुणस्तर छुट्याए पछि फरक गुणस्तरका जडीबुटीको मूल्य पनि फरक नै हुन्छ होला, होइन त?
4. के तपाईं ऋन पाउनु हुन्छ ?(probe for bank overdraft, own savings, informal loans, other)

- के तपाईं जस्ता जडीबुटी व्यापारीहरु बिच कुनै सहकारी छ ? (probe for activity: buying, handling, selling, other)

#### D. SELLING

(विक्री)

- के तपाईं बैना लिनु हुन्छ ?
- कुन कुन जडीबुटीको लागि बैना लिनु हुन्छ ? कुल विक्रीको कति प्रतिशत जति बैना लिनु हुन्छ ?
- बैना लिदा कुनै सम्झौता (agreement) गर्नु हुन्छ वा अरु केही (probe for sales of fixed volume, sales as discounted price, payment of interest rate, other) हुन्छ की ?
- के तपाईं खुला बजारमा बेच्नु हुन्छ ? (opposite to advance payment)
- खुला बजारमा के तपाईं प्राय एक उही व्यापारीलाई बेच्नु हुन्छ ? किन ? (probe for importance of price, reliability of buyers etc)
- दुवानीको खर्च कस्ले बेहोर्छ ? (probe for different categories of buyers, i.e. open market relations or financiers of advance payments)
- बजारभाउ कसरी निर्धारण गरिएको हुन्छ ।
- खरिदकर्ताहरुबीच तपाईंको सामान किन प्रतिस्पर्धा हुन्छ की ?
- के जिल्लामा प्रशोधनकर्ता छन् ? Names, location? (Note it in diary)
- के तपाईं जडीबुटी प्रशोधनकर्ता लाई बेच्नु हुन्छ ?

#### E. PERMITS AND RENT-SEEKING

- जडीबुटी दुवानी गर्न अनुमति पुर्जा (permits) कहाँ बाट लिनु हुन्छ ? यदि लिदा शुल्क पनि लाग्छ हैन ?
- जडीबुटी दुवानी गर्दा कस्तो अवस्थामा अतिरिक्त शुल्क तिर्नु पर्ला ?

#### F. CHANGES AND PROSPECTS

- पछिल्ला १५ वर्षमा जडीबुटी संकलन र व्यापारमा कुनै परिवर्तन देख्नु भएको छ ? जस्तै संकलनको उमेर, लिंग, प्रजाति, उपलब्धता, मूल्य, मूल्य सूचना आदि ।
- पछिल्ला १५ वर्षमा तपाईं जडीबुटीको व्यापारबाट खुसी हुनु हुन्छ (आम्दानी) ?
- जडीबुटीको आपूर्ति (supply) मा केही समस्या देख्नु भएको छ ? (मिसावट, अति र समय अगाडी संकलन आदि)
- जडीबुटीको व्यापार र विक्री प्रणालीमा केही समस्या देख्नु भएको छ ?
- यस क्षेत्रलाई थप नाफामूलक बनाउन के गर्नु पर्ला ? सम्भावना कतिको छ ?

### Harvester instrument (संकलक वा कृषकहरुको लागि प्रश्नावली )

#### A. GETTING STARTED

(परिचय)

- तपाईं जडीबुटी संकलन गर्नुहुन्छ कि खेती गर्नुहुन्छ ?
- जडीबुटी संकलन वा खेती गर्न तपाईं किन संलग्न हुनुभयो ?
- यदि कसैले जडीबुटी संकलन वा खेती गर्न चाहेमा, कसरी सुरुवात गर्नु पर्ला ?
- जडीबुटी संकलन वा खेती गर्न चाहनेले सुरुमा के थाहा पाउनु पर्ला ? जस्तै संकलन वा खेती गर्न अनुमति पुर्जा (permits), कुन जडीबुटी कहाँबाट र कहिले संकलन गर्ने भन्ने कुरा आदी ?

5. जडीबुटी संकलन वा खेती सुरुवात गर्न, महिला र पुरुष लाई एउटै कि फरक अवस्था हुन्छ ?

## B. HARVESTING

(संकलन वा खेती)

1. जडीबुटी संकलक बिच संकलन वा खेती बारे कस्ता खाले अर्ति वा परामर्ष साटासाट हुन्छ? ( जस्तै जिडीबुटी संकलन समय, स्थान, तरिका (technique), औजार (tools))
2. यि सबै ज्ञान कसरी थाहा पाउनु हुन्छ ?

## C. HANDLING

प्रत्येक जिडीबुटीको लागी, छुट्याउने (For each product, specify:)

5. जिडीबुटी संकलन पछि के गर्नु हुन्छ ? (जस्तै सफाई, सुकाई, केलाई, गुणस्तर चेक, अन्य (cleaning, drying, sorting, quality checks, other))
6. के यो जिडीबुटीको विभिन्न गुणस्तर पनि हुन्छ ?
7. यदि हुन्छ भने, जिडीबुटीको विभिन्न गुणस्तर कसरी थाहा पाउनु हुन्छ ? (जस्तै ठूलो पात, लामो जरा आदी )
8. के विभिन्न गुणस्तरको जिडीबुटीका लागी तपाईलाई भिन्नै मूल्यंकन दिइन्छ ?

## D. SELLING

(विक्री)

1. जडीबुटी संकलक बिच जिडीबुटी बेच्ने बारे कस्ता खाले अर्ति वा परामर्ष साटासाट हुन्छ? ( जस्तै जिडीबुटी बेच्ने समय, बेच्ने स्थान ?(Hint: this is about the flow of knowledge)
2. के तपाईलाई थाहा भएका जडीबुटी व्यापारीहरु भन्नु सक्नु हुन्छ ? (Note: If new buyers, note them)
3. खुला बजारमा के तपाई प्राय एक उही व्यापारीलाई बेच्नु हुन्छ ? किन ? (probe for importance of price, reliability of buyers etc)
4. कस्ता जडीबुटी व्यापारीहरुलाई तपाई राम्रा व्यापारीहरु भन्नु हुन्छ ?
5. कस्ता जडीबुटी व्यापारीहरुलाई तपाई नराम्रा (खराब) व्यापारीहरु भन्नु हुन्छ ?
6. के जडीबुटी विक्री गर्न जडीबुटी व्यापारीहरुको प्रतिष्ठाले तपाईलाई फरक पार्छ ?
7. तपाईलाई भुक्तानी नगदमा हुन्छ कि सामन वा अन्य केहीमा हुन्छ ?
8. के तपाईलाई सबै भुक्तानी एकै पटक हुन्छ कि पटक पटक हुन्छ ?
9. के तपाईले कहिले बैना (Advance Payment ) लिनु भएको छ ? (१. नगद कि सामन वा अन्य २. बैना दिनेको नाम र ठेगाना Note it in the diary)
10. कस्तो अवस्थामा बैना लिनु हुन्छ ( probe for interest rate, discounted price and fixed volume sales, other ) ?
11. बैना लिएको जडीबुटी व्यापारीलाई जडीबुटी बेच्नु भएन भए के होला ?
12. तपाईलाई बैना दिने जडीबुटी व्यापारीलाई बेच्न ठिक कि खुला बजारमा बेच्न ठिक ?
13. के तपाईले जडीबुटीको उचित मूल्य पाउनु भएको छ ? किन ?
14. के तपाईको गाँऊ वा नजिकै जडीबुटी व्यापार गर्ने सहकारी छ ?
15. त्यो जडीबुटी व्यापार गर्ने सहकारीलाई तपाईको जडीबुटी बेच्नु हुन्छ ? किन ?
16. कति जना संकलकहरु बाषीक रुपमा जडीबुटी विक्रीका लागी तिब्बत नाका पार गर्छन्?
17. के संकलकहरु तिब्बत नै गएर बेच्छन्? (i) आफैले संकलन गरेको जडीबुटी विक्री गर्छन्?(ii) के अरु संकलकहरुको निमित्त जडीबुटी विक्री गर्छन्?यदि गर्छन् भने, के उनिहरुलाई रकम दिइन्छ? (iii) के संकलकलाई रकम आर्जन गर्नका लागी अन्य संकलकहरु संग जडीबुटी किनबेच गरिन्छ?

18. के चाइनीज/ तिब्बेतीएन खरिदकर्ता नेपाल आएर संकलकहरु संगै जडीबुटी खरिद गर्छन? बाषीक रुपमा कति जना? यदि हो भने, कुन उत्पादन?

#### E. PERMITS AND RENT-SEEKING

(अनुमति..... )

1. कस्तो अवस्थामा जडीबुटी संकलन वा ढुवानी गर्न अनुमति पुर्जी (permits) वा कुनै किसिमको अतिरिक्त शुल्क लाग्छ ?

#### F. CHANGES AND PROSPECTS

1. पछिल्ला १५ वर्षमा जडीबुटी संकलन (खेती) र व्यापारमा कस्ता खाले परिवर्तन देख्नु भएको छ ? जस्तै संकलनको उमेर, लिंग, प्रजाति, उपलब्धता, मूल्य, मूल्य सूचना आदि ।
2. जडीबुटीको योगदानले तपाइको घरायसी आम्दानी कसरी परिवर्तन भएको छ ?
3. तपाईं जडीबुटीको व्यापारमा मुख्य के समस्या देख्नु हुन्छ ?
4. के आगामी वर्ष पनि तपाईं जडीबुटी संकलन (खेती) गर्नु हुन्छ ? किन ?
5. भविष्यमा के तपाईं आफ्ना सन्तान पनि यहि गरुन् भन्ने चाहानु हुन्छ ?
6. अन्य व्यवसाय गरेर किन यति नै उत्पादन ( आम्दानी) गर्नु हुन्न ?
7. यस क्षेत्रलाई थप नाफामूलक बनाउन के गर्नु पर्ला ? सम्भावना कतिको छ ?

## 4.7 Pre-consumer survey

**Aim of the research project: Increase production and sustainability of supply of MAPs from Nepal through better management/cultivation - i.e. necessary to know trade and important products**

Are you willing to participate in the interview?                      a) Yes    b) No

Name of interviewer:

Interview number:

Date of interview:

District where the interview takes place:

Interview location (GPS):

<b>Section A: Respondent information</b>	
Name and designation of the respondent	
Is the respondent the owner of the processing industry?	Yes                      No
How old are you?	
Sex of the respondent	Male                      Female
Which ethic group/caste do you belong to?	
Which is the highest level of education that you have completed?	Secondary (9-10)/ SLC & equivalent/ Intermediate & equivalent/ Graduate & equivalent/ Post graduate & equivalent
For how many years have you been processing MAP raw materials?	





### Section C: Information of end products

Name of end product	Description of end product	End product category	Raw material/ species	Trade unit	Quantity raw material last year	Grade/ quality	Ease of fulfilling demand of raw materials	Any substitute/s, name	Brand name	Major supply countries	Trade unit	Annual production volume last year	Major marketed districts in Nepal	Mainly used where - pharmacy/ clinics/...

**Note: The researcher will take photograph/s of each end product, purchase a sample or bring label.**

How are your end products reached to consumers (i.e. marketing channel)?

Among these end products, which one is the top sold product?

## Appendix 5: Checklist for data collection with tablets and ODK collect

### Before leaving for field work

1. Ensure that your tablet is fully charged, that you packed the tablet's charger and to bring your PC or a hard drive, to create data back-ups in the field.
2. Ensure that you know how to work with digital questionnaire forms on the tablet and how to back-up collected field data (consult the ODK appendix of the TGG-N project's Technical Guidelines, to review procedures as required).
3. Download all required blank questionnaire forms, from the project's aggregate platform. Alternatively, if you previously worked with the same questionnaire forms, ensure that the questionnaire forms on your tablet are up to date and that no new versions of blank questionnaire forms have been released in the meantime.

### During the field stay

1. Ensure that your tablet is fully charged, before departing to conduct interviews.
2. Ensure to carry a paper copy (the TGG-N project's Technical Guidelines) of all questionnaires required during the day, in case your tablet fails.
3. Every evening, ensure to create back-ups of all finalised forms (interview data) collected during the day. Create both back-up folders on your local PC or hard drive and in the TGG-N project's drop box (the latter as soon as you have access to the internet).

### Project staff in Copenhagen

1. Ensure that enumerators use the latest version of blank questionnaire forms at all times.
2. Regularly check data, submitted by the enumerators, to the project's aggregate platform, for errors and inconsistency.
3. Ensure that enumerators regularly back-up all collected data, to their personalised back-up folders, in the ODK section of the project's drop box.
4. Regularly back-up the entire ODK folder, in the project's drop box, to a local PC in Copenhagen, to prevent accidental data loss.
5. Never release and change over to a new version of blank questionnaire forms on the project's aggregate platform, without previously notifying all enumerators (! Enumerators will be unable to submit already collected field data, if the current version, of the blank questionnaire form, on their tablet, does not correspond to the current version, of the blank questionnaire form, on the project's aggregate platform!). Remember, that all data, associated with a blank questionnaire form on aggregate (all submissions for this questionnaire form) will be deleted, if you change over to a new version of a blank questionnaire form (see ODK appendix of the TGG-N project's Technical Guidelines).

## Appendix 6: Data entry and management using tablets

The TGG-N project implements a mobile data collection strategy, using the Open Data Kit (ODK) and its tools, to complete the quantitative parts of the project's questionnaire surveys. The open source ODK toolkit (<https://opendatakit.org/>) supports the design and management of electronic forms of questionnaires. During interviews in the field, data can thus be entered into tablets, which contain digital forms of the project's quantitative data collection instruments. Interview data, which has been recorded in this way, is automatically up-loaded and stored on the project's aggregate platform in the cloud (<https://nepalgreengrowth.appspot.com>), from where it is readily accessible for analysis, visualisation and export. This appendix provides a basic overview of how ODK tools are used in the TGG-N project. It further serves as a reference and guide to the implementation of all ODK related project tasks.

### 6.1 ODK's main functions

The ODK toolkit serves three main functions in the TGG-N project. It is used to:

1. Design digital questionnaire forms, of the project's quantitative data collection instruments using excel (XLS-Form design component)
2. Record and collect data in the field, using tablets with digital forms of the project's quantitative data collection instruments (ODK collect component)
3. Maintain an application on the project's cloud server, to manage and distribute digital questionnaire forms and to collect, analyse, visualise and export interview data, which has been submitted via tablets (ODK aggregate component)

### 6.2 Resources about ODK and its application

These are links to digital resources about ODK and its application. Additional links, to instructions for specific tasks, are provided in the corresponding section of this appendix.

- General information about the ODK toolkit: <https://opendatakit.org/>
- A demonstration video about the use of ODK: <https://opendatakit.org/use/>
- Detailed ODK user guides, authored by various research and development projects. These provide examples of a range of ODK applications: <https://opendatakit.org/help/training-guides/>
- Information about the XLS-Form design: <https://opendatakit.org/use/xlsform/>
- Information about the ODK collect: <https://opendatakit.org/use/collect/>
- Information about the ODK aggregate: <https://opendatakit.org/use/aggregate/>

## 6.3 Basic functions and initial set-up of aggregate on app-engine

### Basic aggregate functions

ODK aggregate is the platform and application used to manage and distribute the project's digital questionnaire forms. It further supports the collection, analysis, visualisation and export of data, digitally submitted to the platform, from field tablets.

In the TGG-N project, aggregate allows us to:

- Store and distribute blank questionnaire forms, which are used with ODK collect on the field tablets
- Receive and collect completed questionnaire forms (submissions)
- Manage, visualize and export collected data
- Manage user accounts for enumerators using tablets in the field

The following paragraph outlines the initial set up of aggregate on Google's app-engine. Other aggregate functions are covered in a separate section of this appendix.

### Initial set-up of the project's app-engine account and aggregate

The TGG-N project runs aggregate in the cloud, through Google's app-engine. Note that aggregate can also be hosted on a private web-server or a physical server at the university. The set-up of an app-engine account (if aggregate will be hosted on app-engine in the cloud) and aggregate are the first steps required to use ODK in a new research project. See <https://opendatakit.org/use/aggregate/> for ODK's own instructions about the set-up of aggregate.

To set-up an app-engine account and aggregate, for the TGG-N project, the following steps were required:

1. Creation of an app-engine account for the project. This is like setting up a new Google account. Access the following web address to set up an account for a new research project:

[appengine.google.com](https://appengine.google.com).

The TGG-N project's app-engine account details are:

- Account name: [transitinggreengrowth@gmail.com](mailto:transitinggreengrowth@gmail.com)
  - Password: Refer to the TGG-N account details document (app-engine/google account)
2. Aggregate will be installed after the successful set-up of an app-engine account. To install aggregate, log into the newly created app-engine account, to create a new application (= to install aggregate).

The ID for the new application (aggregate), determines the future URL of the project's aggregate platform. E.g. the TGG-N project's application ID is nepalgreengrowth. The project's aggregate platform can be accessed at <https://nepalgreengrowth.appspot.com>, accordingly. The project's instance name is: Transiting to Green Growth.

3. The aggregate installer is available from ODK's website - in the aggregate section: <https://opendatakit.org/use/aggregate/>. To configure aggregate on the app-engine server, the

installer needs to be run. An ODK admin account needs to be created as part of the installation process.

The TGG-N project's admin account details are:

- Username: transitinggreengrowth
- Password: Refer to the TGG-N account details document (admin account for aggregate)

## 6.4 Digital questionnaire form design with XLSForm (excel)

### Digital questionnaire design options

Digital questionnaire forms have to be in XForm format, in order to work with ODK tools and on tablets. There are however several ways to design digital questionnaire forms:

1. Forms can be directly written in XForm format (code)
2. Forms can be designed using a form builder, e.g. <https://opendatakit.org/use/build/>
3. Forms can be designed in XLSForm format, in excel and subsequently converted to Xform format online

The third option was used to design all digital questionnaires of the TGG-N project. For further information about XLSForm, see: <https://opendatakit.org/use/xlsform/>.

### Questionnaire development with XLSForm design (excel)

To design a new digital questionnaire with XLSForm design, open a blank excel document and follow the detailed instructions and form design principals available from the following website: <http://xlsform.org/>.

To learn about more advanced functions, only briefly covered in the XLSForm design guidelines, refer to example spreadsheets which are available online, or other design guidelines, e.g.

<https://formhub.org/syntax/>. The TGG-N project's questionnaires can serve as an example for functions such as repeat-loops, constraints, conditionality and cascading select.

Initial design mistakes in newly designed questionnaires are almost impossible to omit. It is therefore important to periodically check the questionnaires XLSForm version (excel spreadsheet), for compatibility with XForm, to find and correct small mistakes right away. This can be done by converting the XLSForm (excel) file to XForm online and subsequently previewing the questionnaire form with Enketo, as described in the following paragraph. At a later design stage, questionnaire forms should also be tested on the tablets, they will eventually be used with.

### Converting excel versions of questionnaire forms to xform

Digital questionnaire forms in XLSForm (excel) format can be converted to XForm (required for use of the questionnaire forms with ODK tools and tablets) online. To do this:

1. Access the following web-address: <http://opendatakit.org/xiframe/>
2. Select "browse" and locate the XLSForm (excel) version of the questionnaire you would like to convert to XForm format
3. Select "submit" and wait until the file has been converted to XForm format

4. Click either “Preview with enketo”, to preview the questionnaire form online, or “Download”, to save the questionnaire in XForm format for further use with ODK tools (e.g. aggregate) and tablets
5. Note: To avoid an error message, which might occur during the file download, download the file by right-clicking on the download button and selecting “save as”, to save the file on your PC.

## 6.5 Working with tablets and ODK collect

### Installation of ODK collect on tablets

ODK collect is the app required to work with digital questionnaire forms on tablets. It is compatible with Android phones and tablets.

Implement the following steps to install ODK on a tablet:

1. Connect the tablet to the internet
2. On the tablet, navigate to Google’s Play Store
3. Select “Apps” in the top-left corner of the screen
4. Find the ODK collect app, with the search function, in the top-right corner of the screen
5. Download and install the free ODK collect app on the tablet

### Connecting ODK collect to the project’s aggregate platform

ODK collect needs to be connected to the project’s aggregate platform, to download digital questionnaire forms from the project’s aggregate platform and to submit finalised questionnaire forms, with interview data, to aggregate.

Implement the following steps to connect ODK collect (on the tablet) with the project’s aggregate platform:

1. Open the ODK collect app on the tablet
2. Navigate to the general settings, by tapping on the vertical row of three small, grey squares, on the top-right corner of the screen -> tap on “general settings”
3. In the general settings menu, select “Configure platform settings”
4. In the section “URL”, enter the URL of the TGG-N project’s aggregate platform:  
<http://nepalgreengrowth.appspot.com> (or, for another research project, the URL of the project’s aggregate platform)
5. Enter the details for an ODK aggregate account, in the sections for username and password (refer to the section on aggregate, in this appendix, for information on how to set up new ODK aggregate accounts)
6. Note that finalised questionnaire forms (with interview data), submitted from this tablet, will be marked with the ODK username you entered. To submit questionnaire forms, under another ODK aggregate username, enter the account information for the respective ODK aggregate account.

### Primary functions of ODK collect

There are five primary functions, displayed on the start screen, of the ODK collect app:

- Fill blank form
- Edit saved form
- Send finalised form
- Get blank form
- Delete saved form

### **Downloading blank questionnaire forms from aggregate**

Implement the following steps to download a blank questionnaire form from aggregate (it will then be available for data collection with the tablet):

1. Click “Get blank form”
2. Enter the account details for an ODK aggregate account and press “OK” to connect to the project’s aggregate platform
3. Tap on the names of the questionnaire forms to select them for download to the tablet
4. Click on “Get Selected” to download the selected questionnaire forms to the tablet

### **Use of digital questionnaire forms to collect data**

Implement the following steps, to collect data with a digital questionnaire form, on the tablet:

1. Download the required blank questionnaire form
2. In ODK collect’s main menu, tap on “Fill Blank Form”
3. Select the questionnaire form to be used
4. Enter interview data into the form – swipe from one question to the next, as shown on the start screen
5. At the end of the interview, select “Mark form as finalised” and “Save Form and Exit”
6. On the ODK collect start screen, select “Send Finalised Form” and select the finalised forms to be submitted, to upload the finalised questionnaire forms (with the interview data) to the project’s aggregate platform
7. Note that you have to be connected to the internet, to upload finalised forms to aggregate. Hence, you might have to wait with the submission of your finalised interview forms, if you are situated in a remote field location (remember to back-up your interview data, to your person PC, daily! ->> see section of this appendix about data back-ups)

### **Deleting finalised or blank questionnaire forms from ODK collect**

Implement the following steps to delete finalised questionnaire forms:

1. Ensure that all finalised forms you are about to delete, have been successfully submitted to aggregate and that back-ups of the data have been made on the PC or in Dropbox ->> **the data will otherwise be lost**
2. Tap on “Delete Saved Form” on the ODK collect start screen



3. Ensure that the “Saved Forms” tab is highlighted (in light blue, at the top of the screen)
4. Tap on the forms, to select those, to be deleted
5. Tap on “Delete Selected”

Implement the following steps to delete blank questionnaire forms:

1. Ensure that all finalised forms, corresponding to the blank form to be deleted, have been successfully submitted to aggregate and that back-ups of the data have been made on the PC or in Dropbox ->> **the data will otherwise be lost when you delete the corresponding blank form**
2. Tap on “Delete Saved Form” on the ODK collect start screen
3. Tap on the “Blank Forms” tab , at the top of the screen, to navigate to the blank questionnaire forms currently saved on the tablet (the Blank Forms tab should now be highlighted in light blue, at the top of the screen)
4. Tap on the forms, to select those, to be deleted
5. Tap on “Delete Selected”

#### **Updating to new blank questionnaire forms**

If completely new blank questionnaire forms become available, they can simply be downloaded and used as described above. However, implement the following steps, if a new version of a questionnaire form becomes available which has already been used:

1. Ensure to submit all finalised questionnaire forms, associated with the old version of the questionnaire forms, to aggregate and that back-ups of all data have been created (this is to avoid data loss!)
2. Delete the old (currently in use) blank version of the questionnaire form and all corresponding finalised interview forms, which are saved on the tablet, as described above
3. Download the new version of the blank questionnaire form from the project’s aggregate platform

## **6.6 Use of aggregate to manage billing, digital questionnaire forms and ODK user accounts**

### **Overview**

All data collection and management activities for the project (including the administration of questionnaire forms, data management and export, as well as the set-up of ODK aggregate user accounts) are conducted via the project’s aggregate platform (<https://nepalgreengrowth.appspot.com>).

The project’s aggregate platform is hosted by Google’s app engine, as described in the section about the initial set-up off an app-engine account and aggregate (above). However, a need to access the project’s app-engine account should only arise in order to close the project’s aggregate platform, at the end of the project or to enable/disable billing for the project’s use of app-engine.

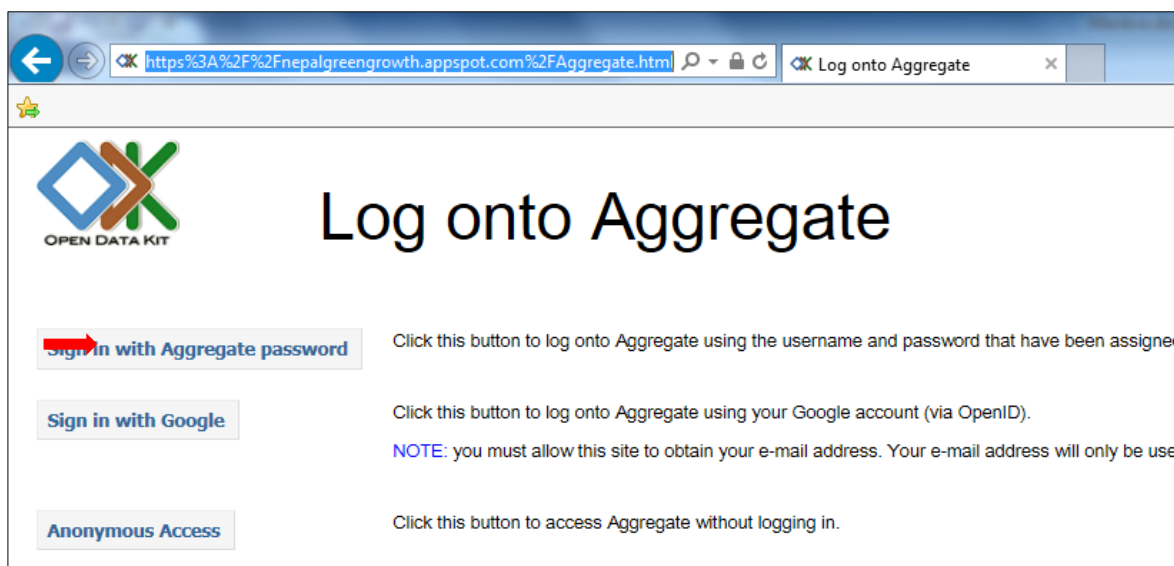
### **Logging onto aggregate**

Finalised questionnaire forms (interview data) submitted by enumerators from tablets will be collected online at the project’s aggregate platform. Access to the project’s aggregate platform is thus required to

export or work with submitted data and to manage digital questionnaire forms and user accounts of enumerators.

Implement the following steps to log onto aggregate:

1. Access the project's aggregate platform at: <https://nepalgreengrowth.appspot.com>
2. Select "sign in with aggregate password", on the log-on page



3. Log onto aggregate, using a personalised aggregate account (enumerators) or the project's admin account details.

The project's admin account details are:

- Username: transitinggreengrowth
- Password: Refer to the TGG-N account details document (admin account for aggregate)

Note that different user rights have been assigned to the various project accounts (i.e. enumerator accounts ≠ admin account). Currently, only the admin account has rights to all types of actions. Functions that cannot currently be used by enumerators are, e.g., the deletion of digital questionnaire forms from aggregate and the creation of new ODK user accounts. These settings can be changed in the "Site admin" tab of aggregate, after logging in with the project's admin account details.

### Accessing the projects app-engine account

App-engine can be accessed via the following link: [appengine.google.com](https://appengine.google.com).

The TGG-N project's app-engine account details are:

- Account name: transitinggreengrowth@gmail.com
- Password: Refer to the TGG-N account details document (app-engine/google account)

### Enabling/disabling billing with the project's app-engine account

The use of app-engine, to host the project's aggregate platform, is in principle free of charge. However, using the free version of app-engine, only a restricted data volume (e.g. blank and finalised questionnaire forms) can be up- or downloaded from aggregate, per day. If this data limit is passed, aggregate can no longer be accessed, for 24 hours. This could create problems, e.g. if enumerators try to submit finalised interviews, but aggregate cannot be accessed until the next day.

For this reason billing (at a very low rate – a few dollars) was enabled for the project. Billing can be enabled or disabled, after successful log-in, to the project's app-engine account.

Access instructions for the administration of billing for the project at:

- General information about billing: <https://cloud.google.com/appengine/pricing>
- Enabling billing: [https://cloud.google.com/appengine/pricing#first\\_time\\_old](https://cloud.google.com/appengine/pricing#first_time_old)
- Disabling billing: [https://cloud.google.com/appengine/pricing#disable\\_billing\\_old](https://cloud.google.com/appengine/pricing#disable_billing_old)

### Management of digital questionnaire forms on aggregate

Blank forms of digital questionnaires need to be uploaded on the project's aggregate platform, in order to use them for data collection with tablets.

Implement the following steps to upload a new, blank, digital questionnaire form to the project's aggregate platform:

1. Log onto the project's aggregate platform (as described above), with the project's admin account details
2. Navigate to the "Form Management" tab, on the top of the page
3. Click on "Add new form" at the top-left corner of the page
4. Browse on your PC, to find the blank questionnaire form to be uploaded (in XForm format!)
5. Click on "Upload Form", to submit the form to the project's aggregate platform
6. A success message will appear after the form has been submitted successfully
7. The blank questionnaire form should now be listed in the "Form Management" tab, under "Forms list"
8. This blank questionnaire form is now available for data collection with tablets

Implement the following steps to delete a blank, digital questionnaire form from the project's aggregate platform:

1. Ensure that the entire data set, corresponding to the blank form to be deleted (all finalised questionnaire forms submitted by the enumerators), has been exported from aggregate and that back-ups of the data set have been created on a local PC or in drop box ->> **! This is very important, to avoid data loss!** If a blank questionnaire form is deleted from aggregate, all associated data (all corresponding, finalised questionnaire forms) which have previously been submitted will be permanently deleted from aggregate

2. Log onto the project's aggregate platform (as described above), with the project's admin account details
3. Navigate to the "Form Management" tab on the top of the page
4. Locate the blank questionnaire form to be deleted
5. Click on the "Delete" button for the form to be deleted (to the very right of the page)

### **Changing to a new version of a blank questionnaire form, on aggregate and tablets**

After initial field test, a need to modify and update digital questionnaire forms may arise. This involves three main steps:

1. Modification of the questionnaire form in XLSForm format
2. Change over, to the new version of the questionnaire form, on the project's aggregate platform
3. Change over, to the new version of the questionnaire form, on the tablets

Implement the following steps to modify the questionnaire form in XLSForm format:

1. Locate the latest XLSForm (excel) version of the questionnaire form to be modified
2. Change the XLSForm version of the questionnaire form as required
3. Convert the XLSForm version of the questionnaire form to XForm format

Implement the following steps, to change over, to the new version of the questionnaire form, on the project's aggregate platform:

1. Notify all enumerators of the required modification. Ensure that enumerators have submitted all finalised questionnaire forms, corresponding to the blank questionnaire form to be modified. Ensure that enumerators have created back-ups of all finalised questionnaire forms, corresponding to the blank questionnaire form to be modified. To avoid confusion, ensure that enumerators have deleted the old version of the questionnaire form from their tablets, before the new version of the form is released.
2. Ensure that the entire data set, corresponding to the blank form to be modified (all finalised questionnaire forms submitted by the enumerators), has been exported from aggregate and that back-ups of the data set have been created, on a local PC or in drop box.
3. **Step one and two are of utmost importance, to avoid data loss!** If a blank questionnaire form is deleted from aggregate, all associated data (all corresponding, finalised questionnaire forms) which have previously been submitted, will be permanently deleted from aggregate
4. Delete the old version of the questionnaire form on the project's aggregate platform
5. Upload the new version of the questionnaire form to the project's aggregate platform

Implement the following steps, to change over to a new version of the questionnaire form, on the tablets:

1. Ensure that all finalised forms (interview data), corresponding to the old version of the questionnaire form, have been submitted to aggregate. Ensure that back-ups of this data have been created.

2. Delete the old version of the blank form, of this questionnaire and all corresponding finalised forms, from the tablet
3. Download the new version of this blank questionnaire form, from the project's aggregate platform

### Managing ODK aggregate accounts

ODK aggregate accounts are required to access and work with the project's aggregate platform and to submit data to aggregate, with tablets.

Implement the following steps to manage the project's aggregate accounts:

1. Log onto the project's aggregate platform, with the project's admin account details
2. Navigate to the "Site Admin" tab, to the top-left of the page
3. Add or remove user accounts and define user rights as required

## 6.7 Visualisation and analysis of collected data with aggregate

The project's aggregate platform allows for simple data visualisation and analysis, with its in-built functions, without a need to first extract the data set of interest.

Implement the following steps, to work with the platforms data visualisation and analysis tools:

1. Access the TTG-N project's aggregate platform
2. On the aggregate platform, navigate to the "submissions" tab

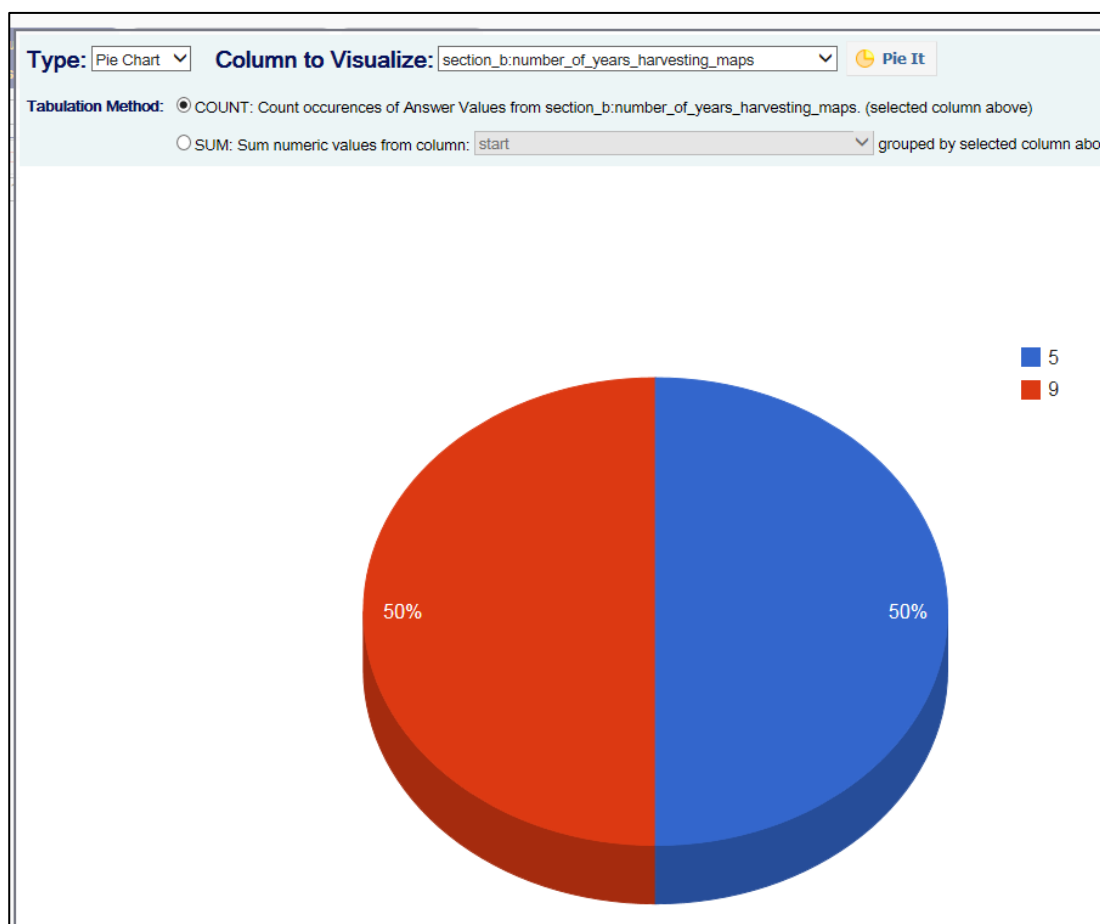
section_b	section_b	section_b
vest_maps	boys_harvest_maps	education_level_of_head_of_household
yes	no	non_formal_education

3. Select the data set, to be explored, by choosing the corresponding questionnaire form, in the top-left corner of the submissions tab (e.g. the "Harvesters" questionnaire form/data set)

4. Remaining in the active “Submissions” tab, click on “Visualise” at the top-right of the screen, to enter the visualisation mode for this data set

5. Now choose:
  - a) The type of chart desired to visualise the data, at the top-left corner of the page (e.g. Pie Chart)
  - b) The variable of interest (e.g. the number of years, respondents have been engaged in MAP harvesting)
  - c) Process the request by clicking on the relevant icon to the right (e.g. “Pie It”)





6. Continue to explore the data, through the selection of other variables and chart types. Use the same data set, or choose to explore a different questionnaire form and the corresponding data set.

## 6.8 Extracting (export of) collected data from aggregate

To go beyond basic visualisation and analysis of the collected data set, the project's data sets need to be extracted (exported) from the project's aggregate platform. There are two ways to extract data sets from aggregate, to prepare for data analysis:

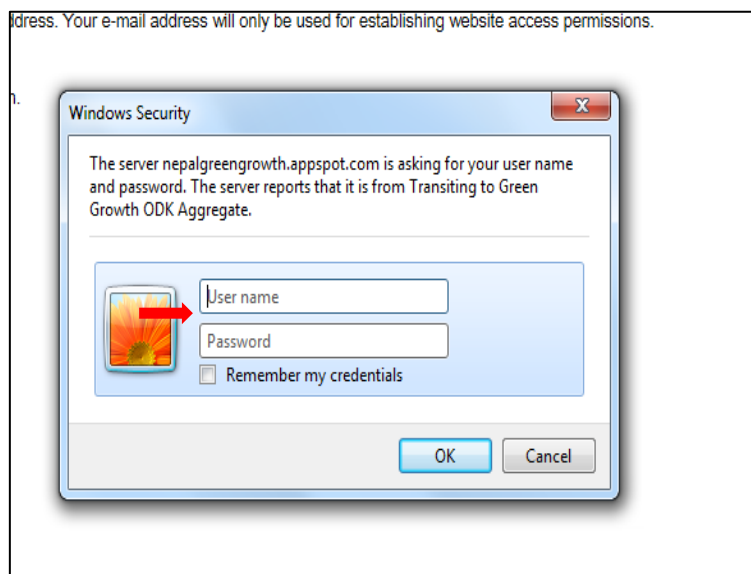
- a) Data sets can be extracted using inbuilt aggregate functions. This is a fast and easy approach to extract data sets. However, aggregate does not support this mode of data extraction, for data-sets containing repeat-loops (as is the case in for all questionnaire forms of the TGG-N project).
- b) Data sets can be extracted, using ODK's Briefcase application. This approach to extract data sets is more difficult and requires installation of the briefcase application. Yet, it is required, to extract data-sets with repeat-loops.

### Data extraction from aggregate, using inbuilt aggregate functions

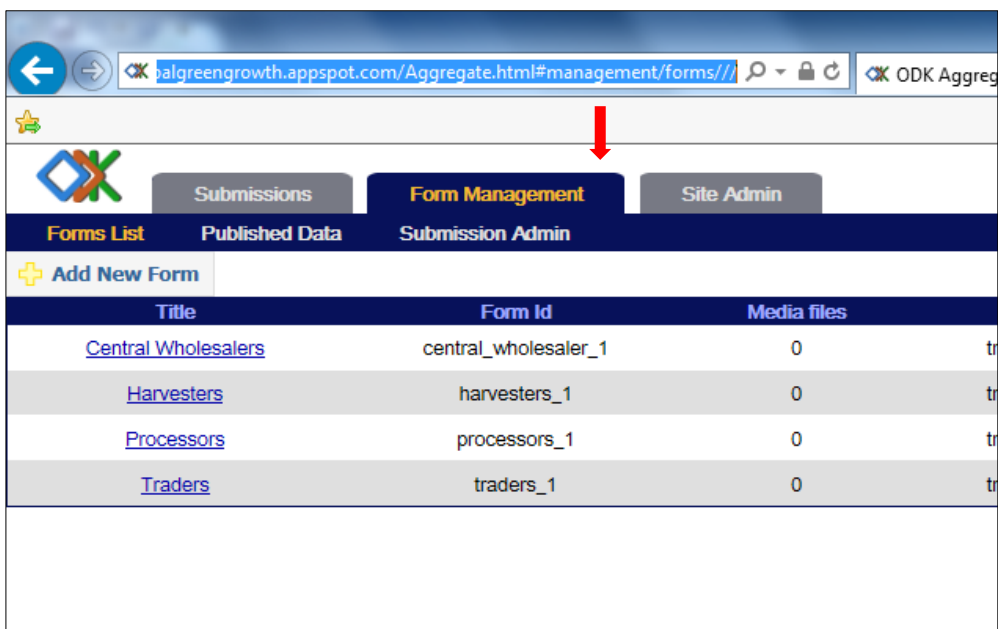
Implement the following steps to extract data from aggregate, using inbuilt aggregate functions:

1. Log onto the TTG-N project's aggregate platform

2. Sign onto aggregate, using an aggregate account with data extraction rights (e.g. the admin account).



3. After successfully signing onto aggregate, navigate to the form management tab, from where data sets can be extracted. The form management tab can be found in the top-left corner of the screen. A click on the heading "Form Management" activates the tab.



4. After successfully navigating to the form management tap, a list of all available questionnaire forms, with their corresponding data sets (all submissions for each questionnaire) will be displayed. Find the questionnaire (data set) you are interested in and click on the corresponding export button (e.g. for the "Traders" questionnaire) on the right side of the screen.



Title	Form Id	Media files	User	Downloadable	Accept Submissions	Publish	Export
<a href="#">central Wholesalers</a>	central_wholesaler_1	0	transitinggreengrowth	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<a href="#">Harvesters</a>	harvesters_1	0	transitinggreengrowth	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<a href="#">Processors</a>	processors_1	0	transitinggreengrowth	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<a href="#">Traders</a>	traders_1	0	transitinggreengrowth	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		

- In the export window, select the desired file format, for the data set, about to be extracted (e.g. CSV) and click export.

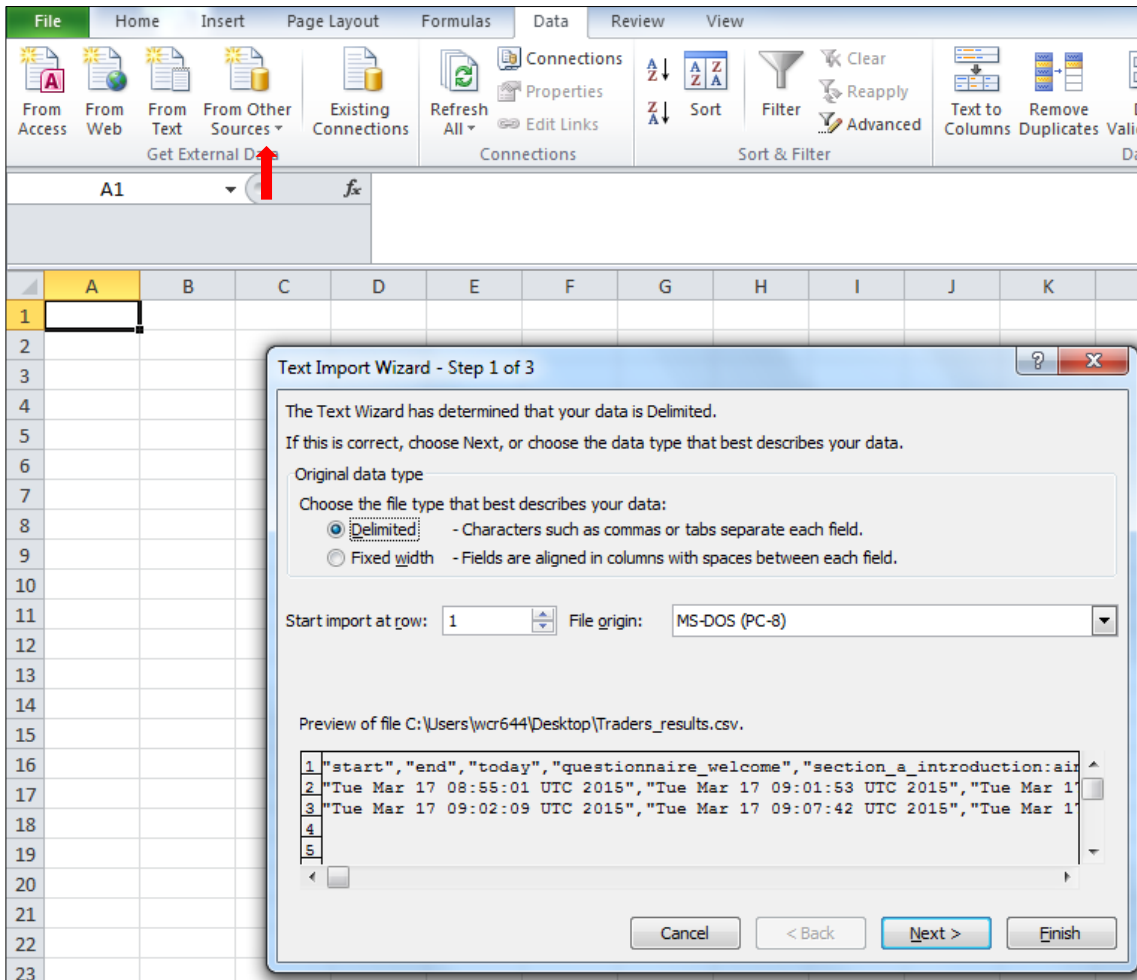
Form: traders\_1    Type: **CSV file**    Filter: none    Export

Geopoint: section\_a\_introduction:geopoint    Title: \*meta-instance-id\*    Picture:

- Wait until the data set is available for export, then download the file to the desired location on a local PC.

File Type	Status	Time Completed	Download File	Delete
CSV file	Dataset Available	Tue Mar 17 10:10:43 GMT+100 2015	<a href="#">Traders_results.csv</a>	Delete

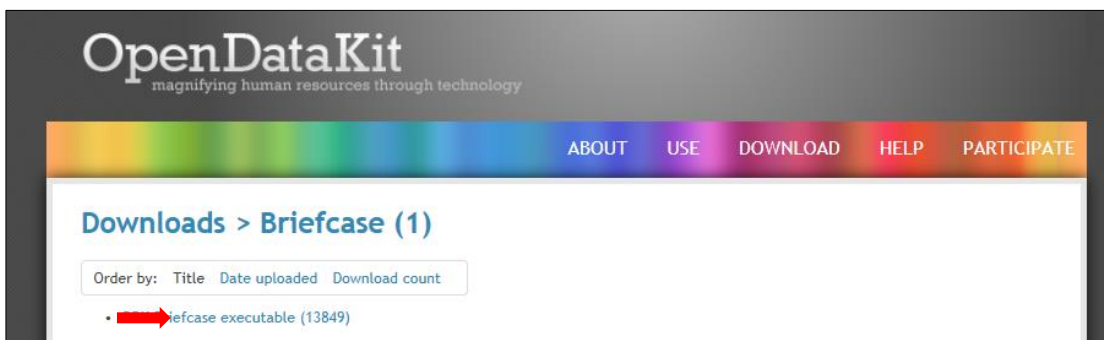
- The data set (in CSV format) can now be imported to another program, for data analysis (e.g. into excel).



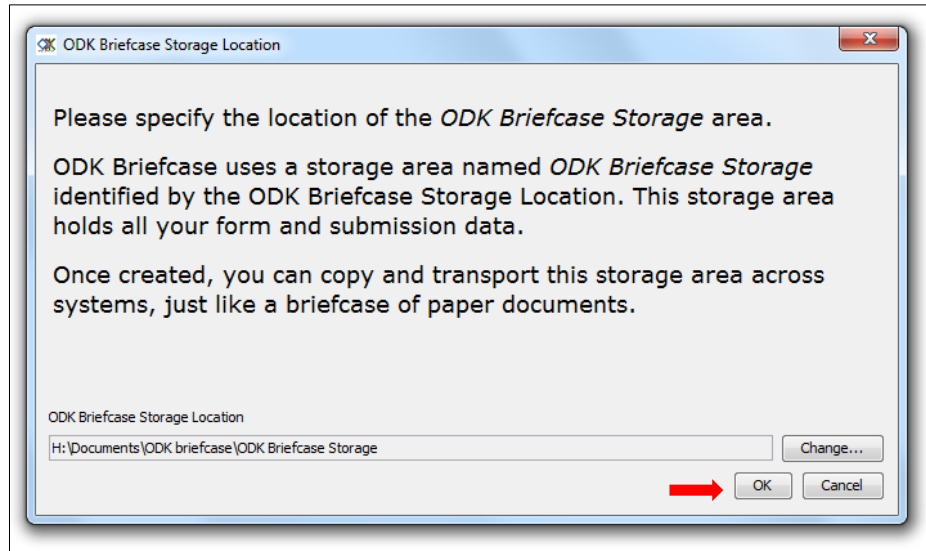
### Data extraction from aggregate, using Briefcase

Implement the following steps, to extract data sets from aggregate, using briefcase. The use of briefcase is required to extract data sets for questionnaires, which contain one or more repeat loops.

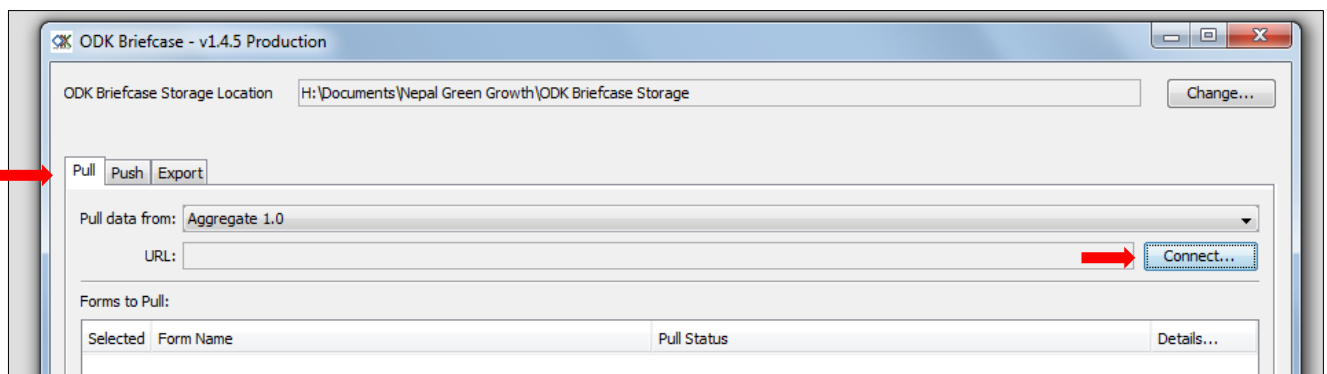
1. Download briefcase from the ODK website, at: <https://opendatakit.org/downloads/download-category/briefcase/>. Install the program on a local PC.



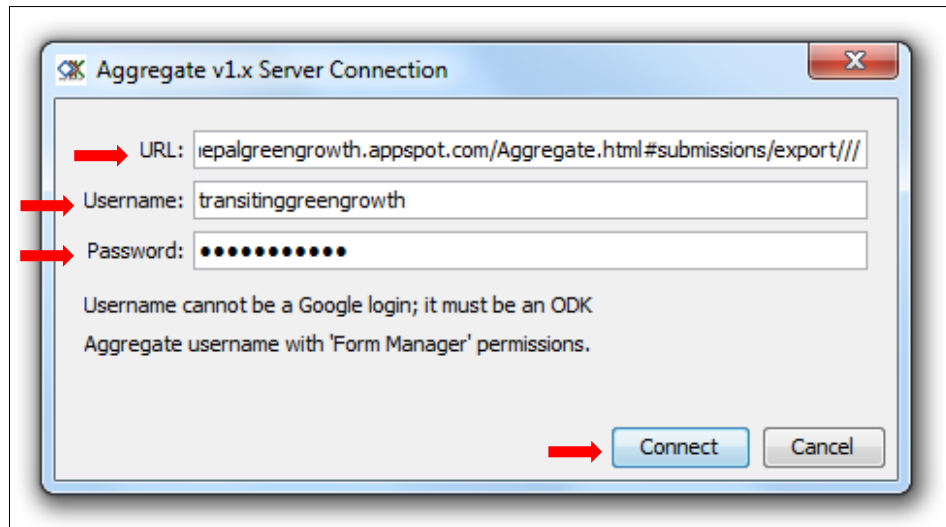
2. During the installation process, the program will prompt you, to specify the location of the ODK Briefcase Storage Area. This is the directory where questionnaires pulled from aggregate will be stored. Press OK to choose the default location or specify a different location for this directory, if desired.



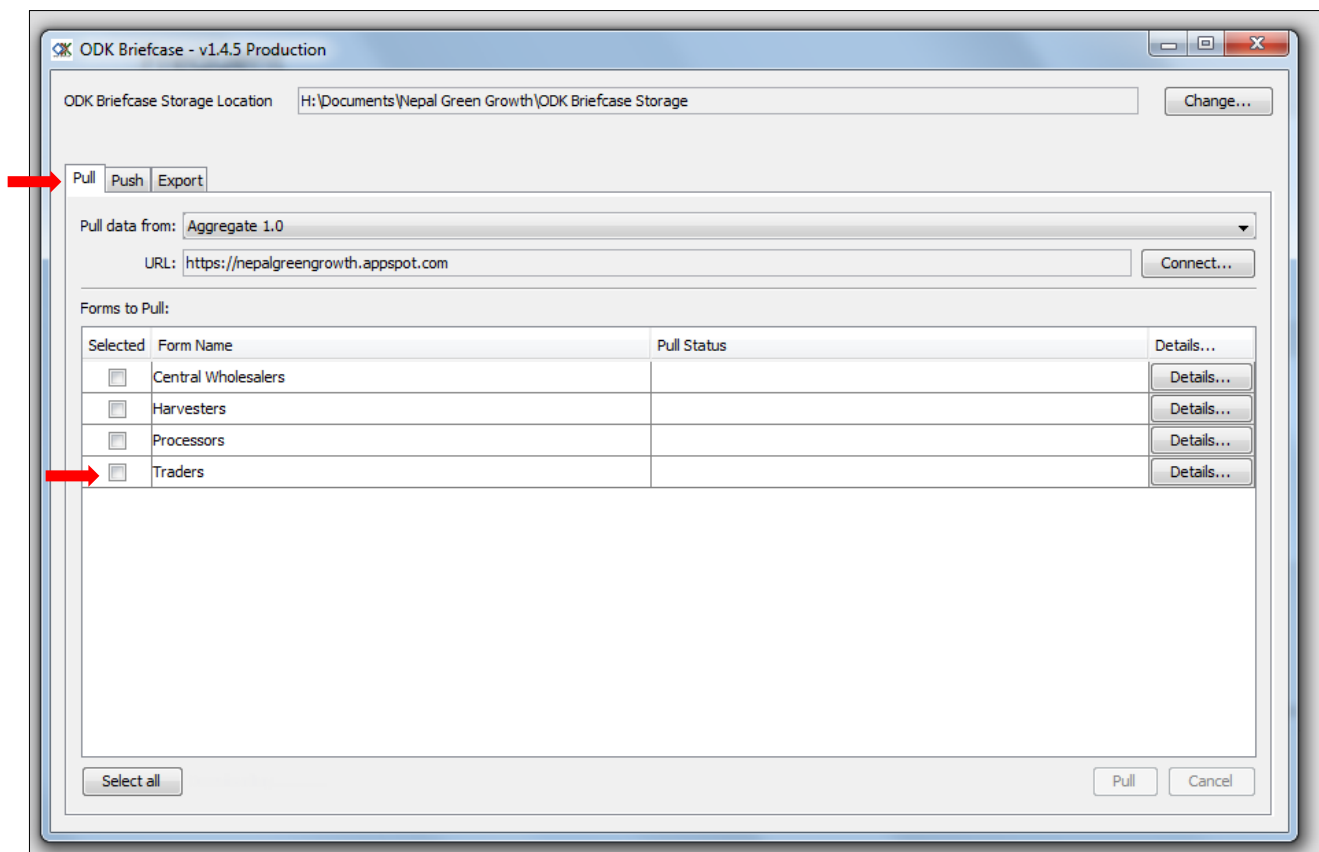
3. Running the application (ODK briefcase), begin to extract data by selecting the “pull” tab, in the top left corner of the briefcase window. Then click on “connect” the right side of the window.



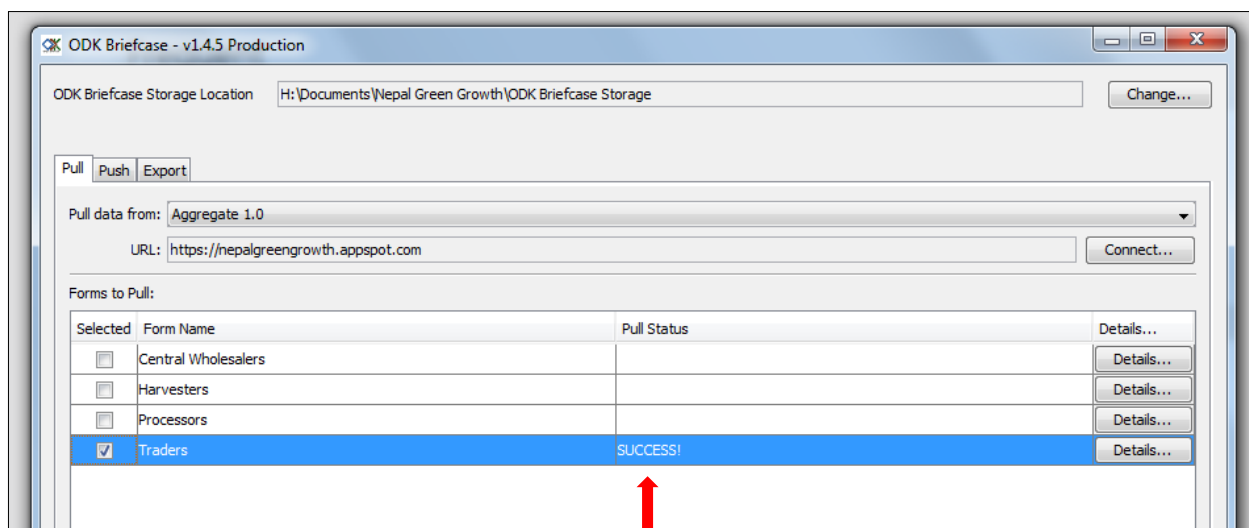
4. Connect briefcase to the project's aggregate platform. To do so, enter the URL of the project's aggregate platform and details for an account, with data extraction rights (e.g. the admin account), in the dialogue window. The URL of the project's aggregate platform is:  
<https://nepalgreengrowth.appspot.com>



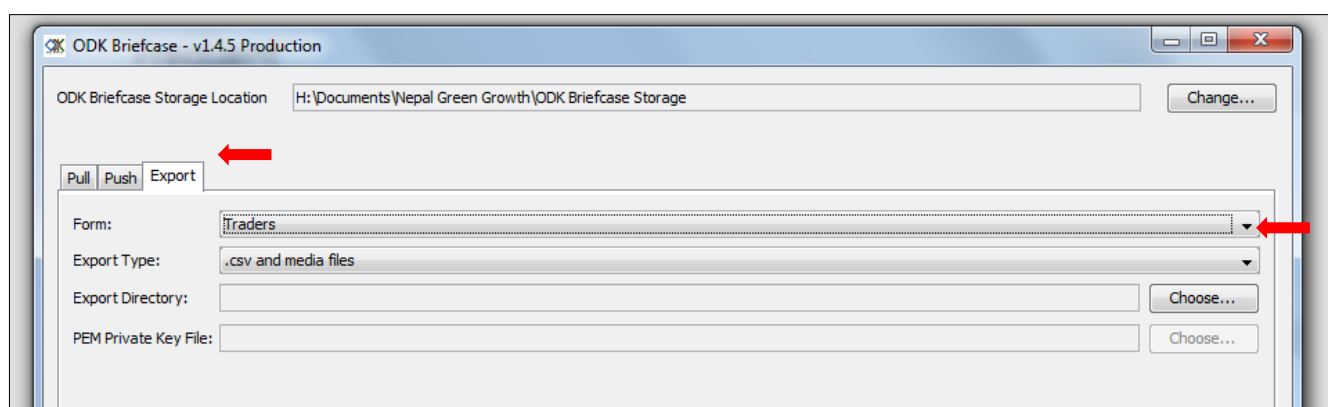
5. Start to pull and extract data sets, once you successfully connected briefcase to the aggregate platform. To do so, select the data set, which you would like to pull from the aggregate platform (e.g. the data set for the Traders questionnaire), in the active pull tab, and click pull.



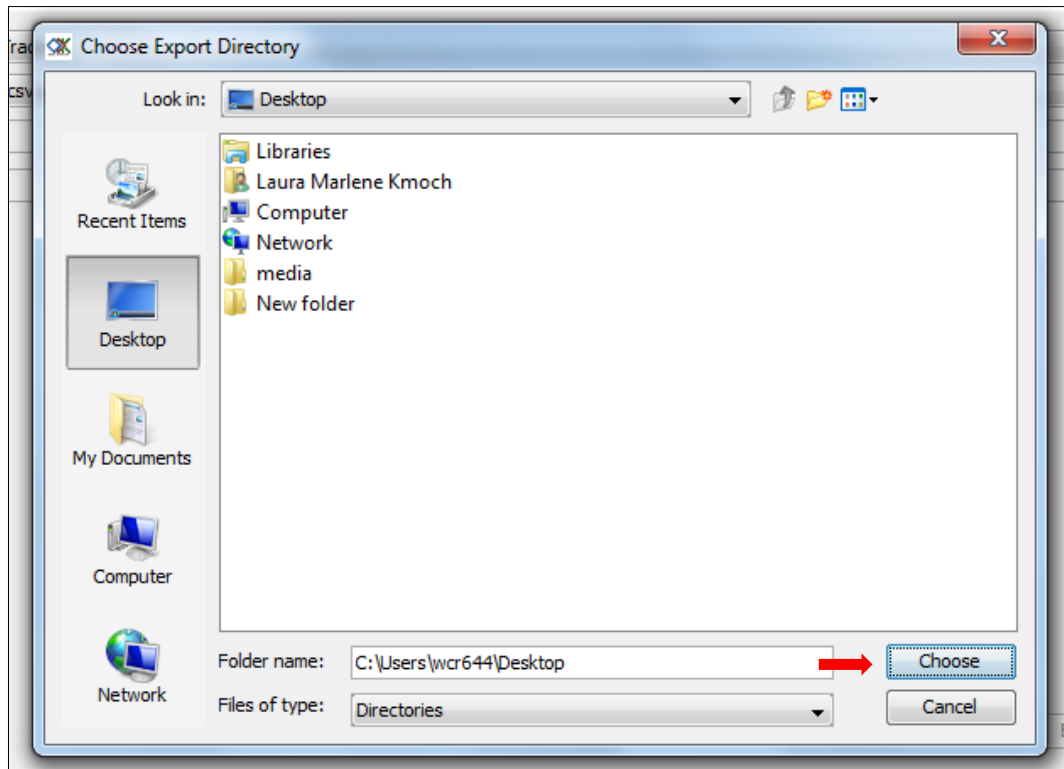
6. If the pull attempt was successful, a confirmation will appear near the centre of the window.



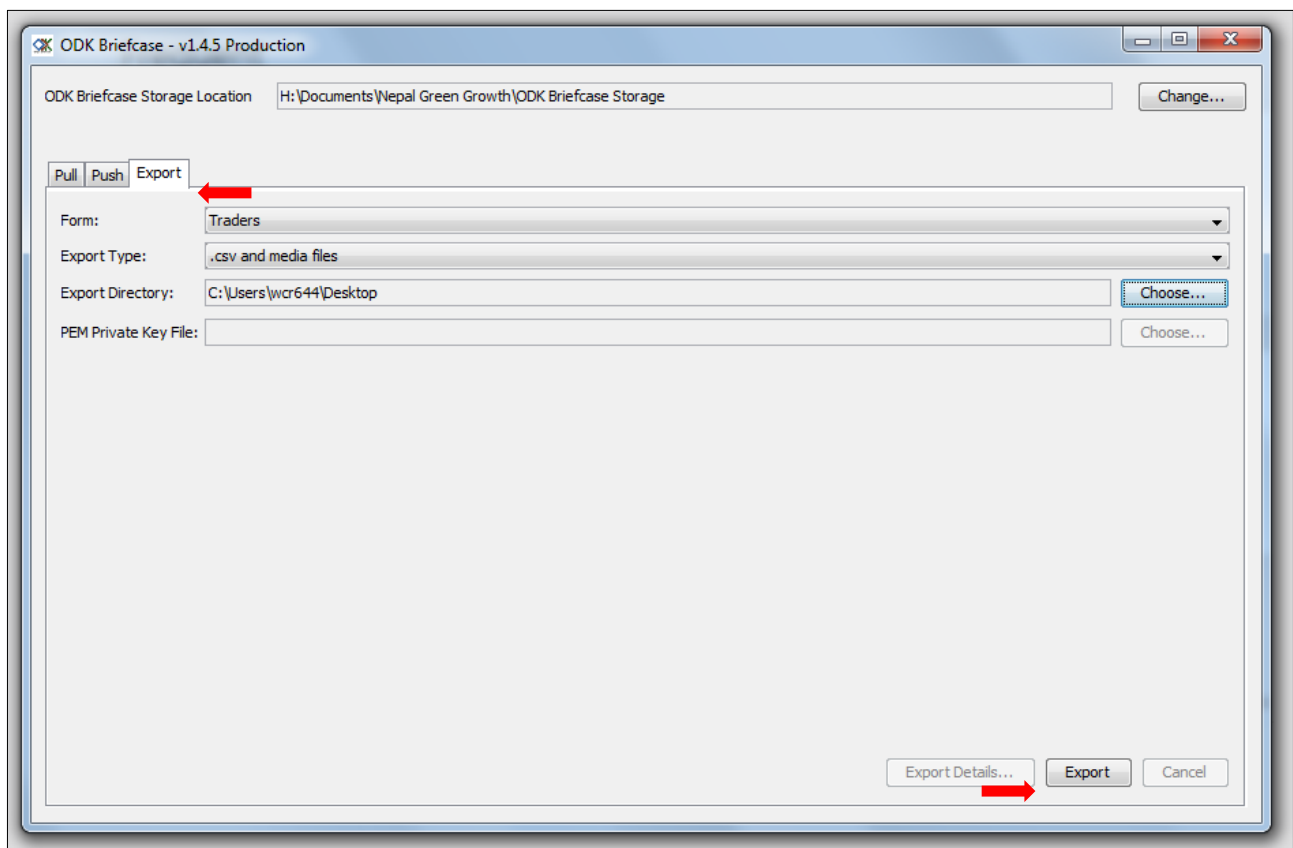
- After the data set has been successfully pulled from aggregate, navigate to the “export” tab and select the form (i.e. the data set) that you would like to extract (e.g. the Traders data set).



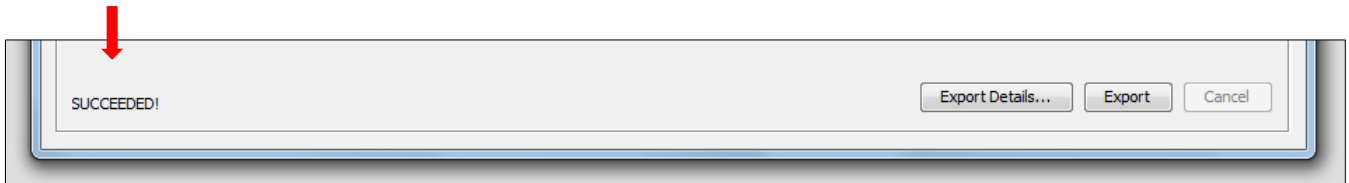
- Specify the desired export directory (the folder in which the data set will be saved, in CSV format) and click “Choose”.



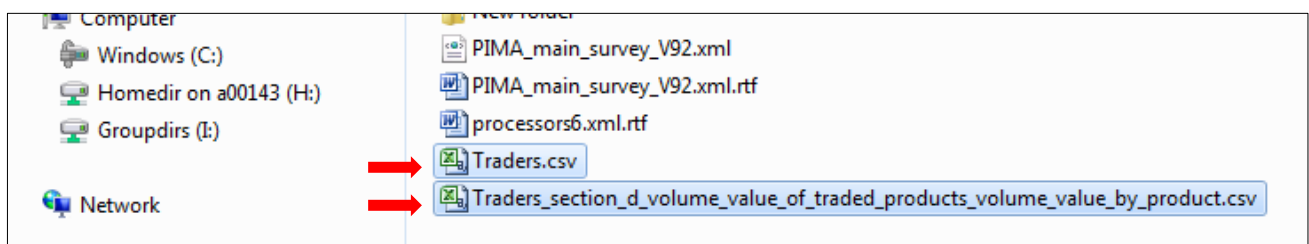
9. On the active export tab of briefcase, click “export”, to export the data set to the export directory, defined in step eight.



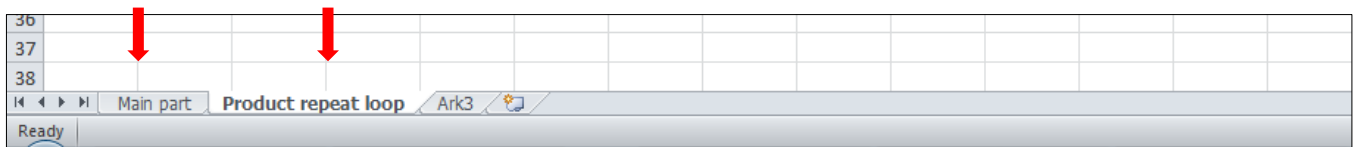
10. A message will appear on the bottom-left corner of the screen, if the data set was successfully exported.



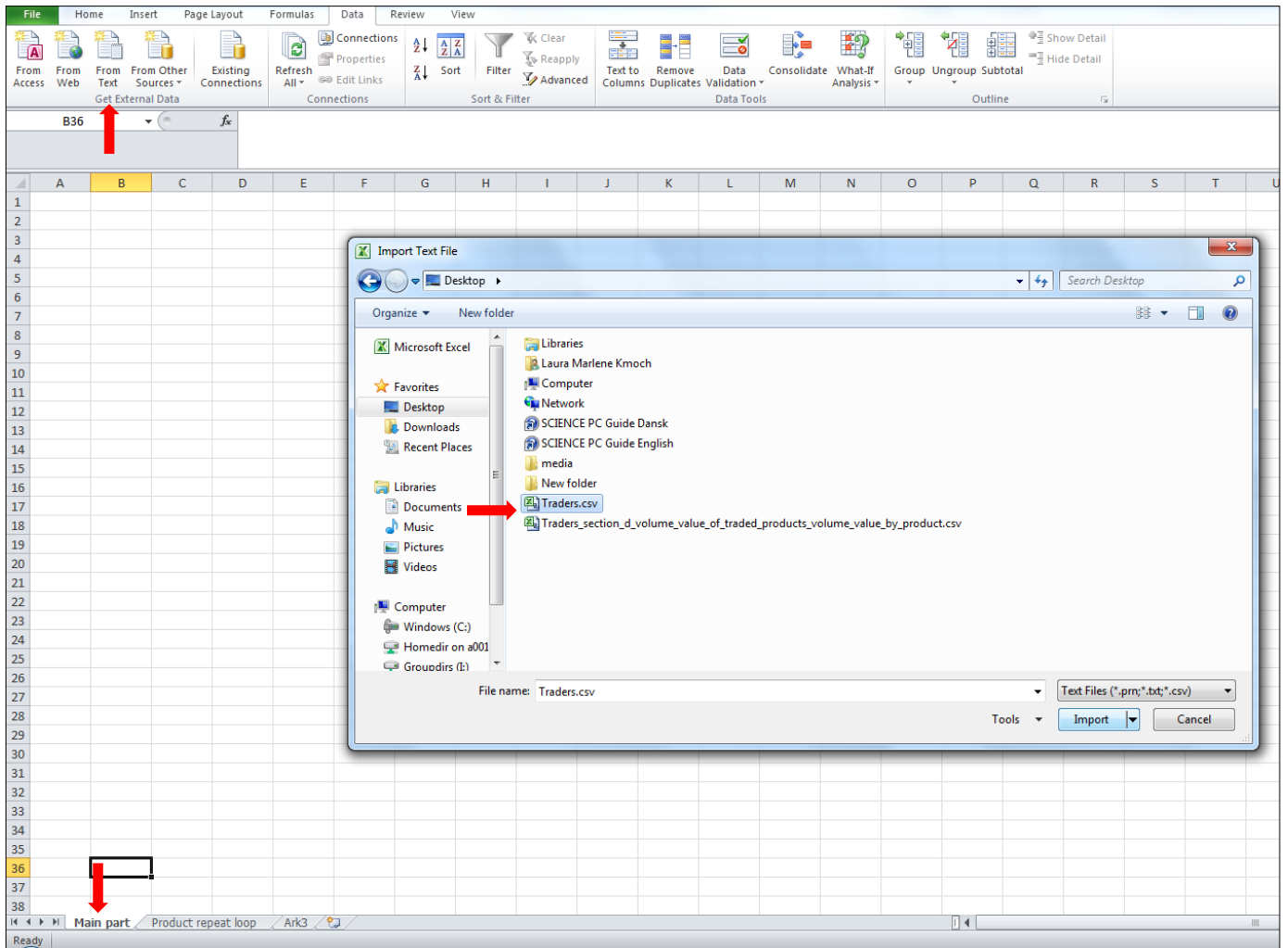
11. In the export directory, there is now one CSV file, containing the main data set, with all response cases (submissions to aggregate) for this questionnaire. There will further be a separate CSV file, with all response cases (submissions to aggregate), for each of the repeat loops in the questionnaire. E.g. in case of the Traders questionnaire, there is one CSV file, with the main data set (Traders.CSV) and one CSV file for the repeat loop about MAP products (Traders\_section\_d\_volume\_value\_of[...]\_csv).



12. All CSV files, belonging to the same questionnaire (data set), can be combined, prior to data analysis. To do this in excel, start excel and open a blank spreadsheet. Start by renaming the sheets (e.g. for the Traders questionnaire, the first sheet may be called "Main part" and the second sheet "Product repeat loop").

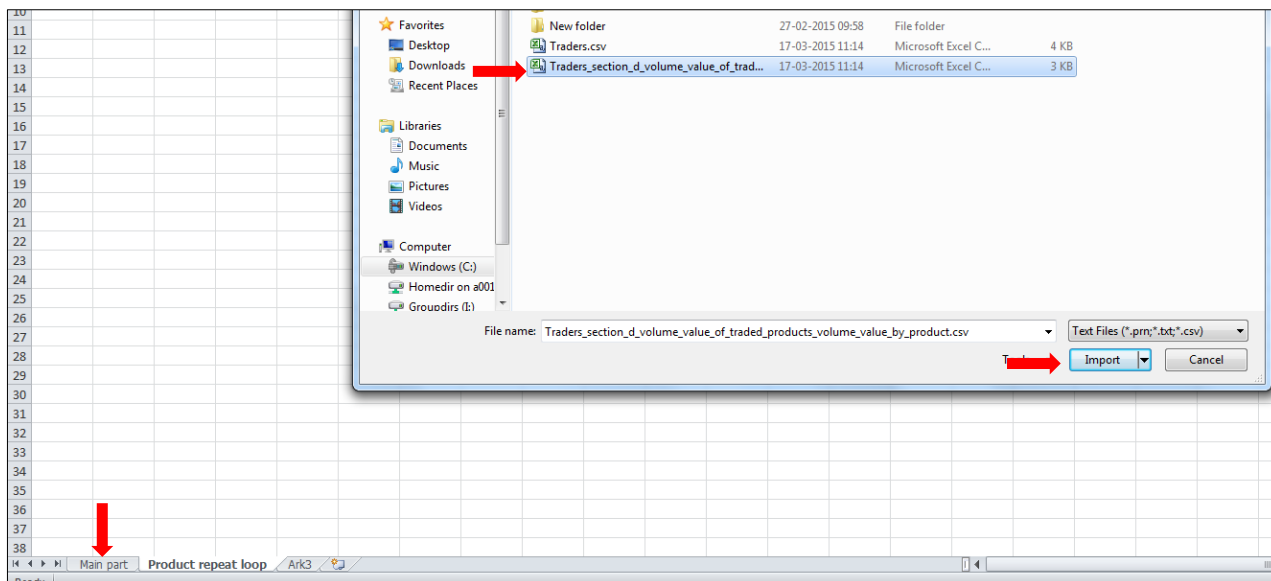


13. Continue to assemble the separate CSV files in one data set, by importing the first CSV file to the first excel sheet (e.g. in case of the Traders questionnaire, import the main CSV file (Traders.csv), to the "Main part" sheet).





14. Continue, by importing the second CSV file to the second sheet (e.g. in case of the Traders questionnaire, import the CSV file for the product repeat-loop (Traders\_section\_d\_volume\_value\_of...\_.csv), to the “Product repeat loop” sheet).



15. Each response case (submission) in the data set, on the sheet with the main data (e.g. called “Main part in the example), has its own unique key. This key can be found at the very end of each row, behind all answers provided during the interview. This allows for the unique identification of each interview.

File

Home

Insert

Page Layout

Formulas

Data

Review

View

From Access

From Web

From Text

From Other Sources

Get External Data

Existing Connections

Refresh All

Properties

Edit Links

Connections

Sort

Filter

Clear

Reapply

Advanced

Sort & Filter

Text to Columns

Remove Duplicates

Data Validation

Consolidate

What-If Analysis

Data Tools

Group

Ungroup

Subtotal

Show Detail

Hide Detail

Outline

BJ1

KEY

16. The unique key (“parent key”) for each response case in the main data set (step 15) further allows, to match answers from the repeat-loop data (in the second sheet), to the main answers of each respondent (in the first sheet). E.g. in this example, on the second sheet called “Product repeat loop”, the parent key for the first response case (submission), appears twice and the parent key for the second response case (submission), appears three times. This is, because the repeat-loop was repeated twice (to enter information about two different products), during the first interview and three times (to enter information for three different products), during the second interview. The number of completed repeats per interview (response cases/submissions) can be determined, by looking at the numbers in square brackets, in the “key” column of the second spreadsheet.

	PARENT_KEY	KEY
63	uuid:cbcb19da-1333-4a3a-850a-9e625dab8c7d	uuid:cbcb19da-1333-4a3a-850a-9e625dab8c7d/section_d_volume_value_of_traded_products-volume_value_by_product[1]
	uuid:cbcb19da-1333-4a3a-850a-9e625dab8c7d	uuid:cbcb19da-1333-4a3a-850a-9e625dab8c7d/section_d_volume_value_of_traded_products-volume_value_by_product[2]
	uuid:35ec9fa6-5ae8-4ce3-8505-c5d020bfe4a5	uuid:35ec9fa6-5ae8-4ce3-8505-c5d020bfe4a5/section_d_volume_value_of_traded_products-volume_value_by_product[1]
36	uuid:35ec9fa6-5ae8-4ce3-8505-c5d020bfe4a5	uuid:35ec9fa6-5ae8-4ce3-8505-c5d020bfe4a5/section_d_volume_value_of_traded_products-volume_value_by_product[2]
	uuid:35ec9fa6-5ae8-4ce3-8505-c5d020bfe4a5	uuid:35ec9fa6-5ae8-4ce3-8505-c5d020bfe4a5/section_d_volume_value_of_traded_products-volume_value_by_product[3]

## 6.9 Creating back-ups of data-sets from tablets and the project’s aggregate platform

All data collected with digital questionnaire forms on tablets will be stored online at the project’s aggregate platform. However, to reduce the risk of data loss, which could occur in case of loss/breakdown of a tablet in the field, or due to accidental deletion of data sets, stored on the project’s aggregate platform, it is of outmost importance to regularly back up all collected data. This applies both to the raw field data, as stored on the tablets, as well as to the aggregated data sets on the project’s aggregate platform. The following paragraphs outline the various back-up locations, in use by the project and how to use them.

### Back-up directories in the TGG-N drop box

All back-up data will be stored in personalised back up directories in the TGG-N project’s drop box. The required personalised back-up directories for every project member, for every enumerator, have already been set up in the TGG-N project’s drop box. Project members can access their back-up directory, via the following path, through the drop box’s folder structure:

FFU green growth drop box ->> ODK ->> Backup ->> personalised directory (search for the directory, which carries your name)

### Direct back-up of raw questionnaire data from tablets

Back-ups, of raw field data, should be created daily during field stays with on-going data collection. This will prevent data loss, which could occur due to a loss/breakdown of field tablets.

Implement the following steps to directly back up raw questionnaire data from tablets

**Part A: Installations of OI file manager, to create ZIP files on tablets** (implement these steps only once, the first time a data back-up is created)

1. On the tablet, go to Google's Play Store
2. Use the Play Store's search function, to find the app called "OI file manager"
3. Download and install the OI file manager app

**Part B: Back-up of raw data** (implement these steps, every time a data back- up is created from the tablet)

1. Connect the tablet to a local PC
2. Start the OI file manager app on the tablet
3. Find the ODK folder, in the long list of folders that appears on the screen
4. Press a finger, for a long time, on that folder ->> the folder should now be highlighted blue, and a menu appears on the top of the screen
5. Find the field called "ZIP", in the menu at the top of the screen (second icon from the right)
6. Click on this ZIP icon and specify the name, which should be assigned to the folder, with the zipped ODK data ->> follow the following name format: ODK\_date (replacing "date" with the current date)
7. On the local PC, navigate to the zipped ODK folder
8. Cut the zipped folder and paste it into your personal drop box back-up directory
9. Repeat these steps once daily, on all data collection days
10. Note that if you do not have access to the internet, all steps should be implemented as described, up until step eight. In step eight, save the newly created zip folder on your local PC and upload it to the TGG-N project's drop box as soon as you regain access to the internet.

**Back-up of data sets, directly extracted from aggregate or via briefcase**

Back-up copies of aggregated data sets, which have been extracted from aggregate or via briefcase, should regularly be obtained and saved in the TGG-N project's drop box. This prevents data loss, which could be caused by accidental deletion of data, already submitted to aggregate. This safety measure is particularly important before new versions of blank questionnaire forms are uploaded to aggregate (progression to new versions of questionnaire forms entails the deletion of all data, previously submitted to a questionnaire form with the same name).

Implement the following steps to back-up data sets, directly extracted from aggregate or via briefcase:

1. On a local PC, access the TGG-N project's drop box and navigate to the back-up directory called "Data sets from aggregate or briefcase" (Path: FFU green growth drop box ->> ODK ->> Backup ->> Data sets from aggregate or briefcase)
2. Enter the "Data sets from aggregate or briefcase" directory and choose "upload" at the top of the drop box screen

3. Upload a copy of the aggregated data set that should be saved, from the local PC ->> follow the following name format: name-of-dataset\_date (replacing “name-of-dataset” with a specific name e.g. “Traders”, and “date” with the current date)

For instructions on how to export data sets from aggregate (e.g. prior to uploading new questionnaire versions) refer to the respective section of this appendix

#### **Storage of back-up directories from drop box at local servers in Copenhagen**

To prevent loss of back-up data, saved and stored in the TGG-N project’s drop box, all back-up directories on drop box should regularly be copied to a local server in Copenhagen.

Implement the following steps to back-up directories from the project’s drop box:

1. Access the TGG-N project’s drop box
2. Navigate to the back-up directory (Path: FFU green growth drop box ->> ODK ->> Backup)
3. Right-click on the folder called “Backup”
4. Download the entire folder of back-up data and save it at the desired location of the local server (PC) in Copenhagen

## Appendix 7: Standardised formats for district-level data collection

This appendix provides the standardised templates for use in preparing pre-departure and post-field reports in connection to district-level data collection (taking place as part of the 15 district survey and the Tibet border survey).

### 7.1 The Standard Pre-Departure Field Trip Report template

The following is the standard Table of Contents for the pre-departure field trip report to be completed, for each district survey (the 15 district surveys and the 10 Tibet border survey districts) before any team member leaves for data collection. The report should be submitted (to Carsten Smith-Hall and others as appropriate) for commentary at least three days before team departure so feed-back can be obtained. Before leaving for the field, the final pre-departure field trip report should be up-loaded to the relevant district folder in the TGG-N Dropbox.

The purpose of the Standard Pre-Departure Field Trip Report is, for the district under investigation, to provide:

1. Basic district information, with particular emphasis on infrastructure as this influences the location of trader routes and actors
2. A figure illustrating the likely main MAP trade flows, including the likely location of actors. This should be based on published and unpublished MAP trade related studies, with references provided at the end of the report (this will also contribute to build up our library of district specific MAP literature that will be useful in connection to later data analysis and discussions)
3. An overview of all trader, wholesaler and processor information available for the district; contact information should be provided in appendices along with the data sources (specifying these are important so we know, for instance, whether the DPR database has been consulted or not)
4. An explicit list of activities undertaken before departure including contacts made and arranged meetings
5. A detailed daily itinerary, based on the above; this will of course most likely be adjusted as field realities are encountered
6. Standard appendices (i) daily itinerary, (ii) overview of traders, wholesalers and processors, including their contact information, and (iii) Department of Forest product-level data on registered MAP trade for the past 10 years

#### Table of Contents

Front page

- a. Title: [name of district] Standard Pre-Departure Field Trip Report
- b. Date: provide date for completion and submission of the Report
- c. Author(s) name(s)

## 1. Basic district information

- a. Basic description (size, population, topography, other key facts)
- b. MAP related infrastructure, with emphasis on roads, trails, passes, airports and other such transport routes (all identified traders, wholesalers and processors are listed in an Appendix, see below)
- c. Explicit listing of expected major and minor market centres relevant to trade in and from the investigated district (should hence include centres even if they are located outside the district). To the extent that time allows this should build on existing published and unpublished MAP trade studies from the district (the master file for the Annotated Bibliography is a useful place to search for relevant literature)
- d. Figure/map based on the above, i.e. indicating the location of expected market centres and trade routes/product flows
- e. Explicit listing of all traded MAPs expected to be found (based on literature, DFO records, preparatory talks with people in the district)

## 2. Pre-departure contacts, arranged meetings, and expected actor interviews

- a. Listing of all district contacts made (e.g. FECOFUN contacts, DFO)
- b. Listing of all arranged meetings (e.g. DFO, DCSI, FECOFUN). A draft agenda for all such meetings could be:
  - Discussion of actors (harvesters, traders, wholesalers, processors) including their location and contact information
  - Discussion of known and likely trade routes
  - Discussion of MAP products traded (and obtaining any missing or recent DFO or DCSI information)
  - Obtaining an overview of what local MAP taxes are paid (what, how much, by whom)
- c. A rough estimate of the number of interviews expected to be undertaken per actor type (harvester, trader, wholesaler, processor)

## References

- a. List of sources used in the Report (in both the main text and the appendices). Use the format from the Annotated Bibliography

## Appendices

- A. Daily itinerary. Present in table form with the columns: date, field trip day no., from (start location), to (end location), planned activities (e.g. travel, interviews with traders)

- B. List of actors. An explicit list of all identified actors (traders, wholesalers, processors) and their contact information (including address and telephone number); should also indicate the source of the information (e.g. JIBAN 2014 or Olsen 1998 or DPR 2015)
- C. MAP quantities traded per year for the past 10 years based on DoF records

## 7.2 The Standard Post-Field Trip Report template

The following is the standard Table of Contents for the field trip report to be completed after each district survey (the 15 district surveys and the 10 Tibet border survey districts). The report can be drafted during field work and completed after termination of the field work. Reports should be completed and submitted (up-loaded to TGG-N WP1 Data and Report folder and notification by email to Carsten Smith-Hall, Mariève Pouliot, and Abhoy Das) no later than five days after completion of field work. All relevant observations and notes from the diaries must be integrated into and presented as part of the Standard Post-Field Trip Report.

The purpose of the Standard Post- Field Trip Report is, for the district under investigation, to provide:

1. Basic information on data collection (field period, team member(s), types and numbers of interviews conducted)
2. A figure illustrating the main MAP trade flows, accompanied by brief text specifying and explaining key points of interest related to flows and actors (e.g. the use of collection centres in Palpa)
3. Brief text on the major products traded and any district-level observations of particular interest (e.g. the dominance of daalchini and tejpat in MAP trade in Palpa District)
4. Brief comments and explanations of issues and factors that are important to understand the quality of the data (e.g. any observations of trade routes not captured by our surveys, such as the transport of harro, barro and other products by Palpa harvesters to regular markets that are not the target of our data collection efforts; or difficulties in locating certain actors; or the eager participation of central wholesalers)
5. Specific listing of required data collection clarifications, e.g. issues arising that may make it difficult to classify actors.
6. Recommendations for improved data collection arising from the district experience, including specific changes to specific questionnaires. These changes should also be emailed directly and as soon as possible to Mariève Pouliot.

### Table of Contents

#### Front page

- a. Title: [name of district] Standard Field Trip Report
  - b. Date: provide date for completion and submission of the Report
  - c. Author(s) name(s)
1. Basic information on data collection
    - a. Field data collection period (from date of departure to date of return to office)

- b. Team member(s)
  - c. Quantification of data collected: specify number of interviews with each types of actors, include both quantitative and qualitative interviews
- 2. Basic information on district MAP trade flows
  - a. Figure/map illustrating the main trade centres and the main flows of MAPs, e.g. using circles to mark trade centres and arrows (of varying width) to indicate magnitude of volume, origin and destination of main flows
  - b. Explanation of figure/map. Emphasise the main points characterising the trade in the district, including explanation of trade structure and actors
  - c. Main products traded. List these along with explanatory remarks and observations.
- 3. Data quality
  - a. Notes on conducted interviews
  - b. Notes on unrecorded trade
  - c. Other factors and issues related to understanding the quality of our data
- 4. Data clarification requirements
  - a. Explicit listing of all data collection issues requiring attention, e.g. questions that are unclear to respondents or cases that make it difficult to classify actors
- 5. Recommendations
  - a. Explicit listing of any recommendations for improved data collection arising from the district data collection experience
- 6. Other issues
  - a. Description of any other issues from the district or data collection experience that is useful for later understanding and/or data analysis
  - b. Explicitly mention the number of photographs that have been up-loaded in the TGG-N WP1 Data and Report folder. Remember that all up-loaded photos must include a caption, date and location, and name of photographer.



## Appendix 8: Names, conservation status, and documentation for all MAPs included in TGG-N

This appendix provides an overview of all trade names for products included in the TGG-N databases (harvester, trader and wholesaler; up-dated as per 8 August 2016) and their scientific equivalents, verified from Catalogue of Life (<http://www.catalogueoflife.org>) dated 19<sup>th</sup> March 2018.

SN	Trade name	Local name	English name	Scientific name	Family	Traded part	Conservation status*	Documentation**
1	Amala	Awala	Emblic myrobolan	<i>Phyllanthus emblica</i> L.	Euphorbiaceae	Fruit		Press <i>et al.</i> 2000
2	Atis		Atis root	<i>Aconitum heterophyllum</i> Wall.	Ranunculaceae	Rhizome	CAMP_V; IUCN_R	Press <i>et al.</i> 2000, Sharma <i>et al.</i> 2004, Shrestha & Joshi 1996
3	Atis		Atis	<i>Delphinium himalayai</i> Munz	Ranunculaceae	Rhizome	CAMP_V	Press <i>et al.</i> 2000, Sharma <i>et al.</i> 2004
4	Ban Lasun		Wild garlic	<i>Allium wallichii</i> Kunth	Amaryllidaceae	Bulb		Press <i>et al.</i> 2000
5	Ban Lasun		Wild garlic	<i>Allium carolinianum</i> Redouté	Amaryllidaceae	Bulb		Ghimire <i>et al.</i> , 2008b
6	Ban Lasun		Wild garlic	<i>Allium prattii</i> C.H. Wright	Amaryllidaceae	Bulb		Press <i>et al.</i> 2000
7	Barro		Belleric myrobalan	<i>Terminalia bellirica</i> (Gaertn.) Roxb.	Combretaceae	Fruit		Press <i>et al.</i> 2000
8	Bhale Chiraito			<i>Swertia angustifolia</i> Buch.-Ham. ex D. Don	Gentiniaceae	Whole plant	CAMP_EN	Press <i>et al.</i> 2000, Sharma <i>et al.</i> 2004
9	Bhale Chiraito			<i>Swertia nervosa</i> (Wall. ex G. Don) C.B. Clarke	Gentiniaceae	Whole plant		Press <i>et al.</i> 2000
10	Bhutkesh			<i>Ligusticopsis wallichiana</i> (DC.) Pimenov & Kljuykov; Syn: <i>Selinum wallichianum</i> (DC.) Raizada & Saxena	Umbelliferae	Root		Press <i>et al.</i> 2000
11	Bisma			<i>Aconitum palmatum</i> D. Don; Syn: <i>Aconitum bisma</i> (Buch.-Ham.) Rapaics	Ranunculaceae	Rhizome	CAMP_DD	Press <i>et al.</i> 2000, Sharma <i>et al.</i> 2004, Shrestha & Joshi 1996
12	Bish		Aconite	<i>Aconitum spicatum</i> (Bruhl) Stapf	Ranunculaceae	Rhizome	CAMP_V; IUCN_T	Press <i>et al.</i> 2000, Sharma <i>et al.</i> 2004, Shrestha & Joshi 1996
13	Bish		Aconite	<i>Aconitum ferox</i> Wall. ex Ser.	Ranunculaceae	Rhizome	CAMP_DD	Polunin and Stainton, 1984
14	Bish		Aconite	<i>Aconitum gammiei</i> Stapf	Ranunculaceae	Rhizome		
15	Bojho		Sweet flag	<i>Acorus calamus</i> L.	Araceae	Rhizome		Press <i>et al.</i> 2000
16	Brahmi, Ghodtapre		Water pennywort	<i>Centella asiatica</i> (L.) Urb.	Umbelliferae	Whole plant		Shrestha 1998
17	Chiraito	Tite	Chireeta	<i>Swertia chirayita</i> (Roxb. ex Fleming) H. Karst.	Gentiniaceae	Whole plant	CAMP_V; IUCN_V	Press <i>et al.</i> 2000, Sharma <i>et al.</i> 2004

SN	Trade name	Local name	English name	Scientific name	Family	Traded part	Conservation status*	Documentation**
18	Chutro		Barberry	<i>Berberis aristata</i> DC.	Berberidaceae	Bark		Press <i>et al.</i> 2000
19	Chutro		Barberry	<i>Berberis asiatica</i> Roxb. ex DC.	Berberidaceae	Bark		Press <i>et al.</i> 2000
20	Chutro		Barberry	<i>Berberis chitria</i> Buch.-Ham. ex Lindl.	Berberidaceae	Bark		Manandhar 2002
21	Chutro		Barberry	<i>Berberis wallichiana</i> DC.	Berberidaceae	Bark		Polunin and Stainton, 1984
22	Dalchini, Tejpat		Cinnamon	<i>Cinnamomum tamala</i> (Buch.-Ham.) Th. G. G. Nees	Lauraceae	Leaf and Bark		Anonymous 2011, Press <i>et al.</i> 2000
23	Dhasingre		Wintergreen	<i>Gaultheria fragrantissima</i> Wall.	Ericaceae	Aerial twig		Press <i>et al.</i> 2000
24	Dhupi, Kalo dhupi		Juniper	<i>Juniperus indica</i> Bertol.	Cupressaceae	Aerial twig		Press <i>et al.</i> 2000
25	Ganaino	Pilijhar, Gadalnu		<i>Pterocyclus forrestii</i> (Diels) M.G. Pimenov & E. V. Kljuykov; Syn: <i>Pleurospermum hookeri</i> (DC.) C. B. Clarke	Umbelliferae	Root		Press <i>et al.</i> 2000
26	Gitidar, Dar	Githi		<i>Boehmeria rugulosa</i> Wedd.	Urticaceae	Bark		Shrestha 1998
27	Gittha	Bhyakur	Potato Yam	<i>Dioscorea deltoidea</i> Wall. ex Griseb.; Syn: <i>Dioscorea bulbifera</i> L.	Dioscoreaceae	Tuber	CAMP_EN; IUCN_T; CITES II	Shrestha 1998, CITES 2011, Sharma <i>et al.</i> 2004
28	Guchi chyou		Morel	<i>Morchella esculenta</i> (L.) Pers. Syn: <i>Morchella conica</i> Pers.	Morchellaceae	Whole plant		Shrestha 1998
29	Gurjo			<i>Tinospora cordifolia</i> (Willd.) Miers	Menispermaceae	Stem		
30	Gurjo			<i>Tinospora sinensis</i> (Lour.) Merr.	Menispermaceae	Stem	CAMP_V	Press <i>et al.</i> 2000, Sharma <i>et al.</i> 2004
31	Harro		Yellow myrobalan	<i>Terminalia chebula</i> Retz.	Combretaceae	Fruit		Press <i>et al.</i> 2000
32	Indreni		Bitter apple	<i>Citrullus colosynthis</i> (L.) Schrader	Cucurbitaceae	Fruit		Press <i>et al.</i> 2000
33	Indreni			<i>Trichosanthes tricuspidata</i> Lour.	Cucurbitaceae	Fruit		Press <i>et al.</i> 2000
34	Indreni			<i>Trichosanthes wallichiana</i> (Ser.) Wight	Cucurbitaceae	Fruit		Press <i>et al.</i> 2000
35	Jatamansi	Baluchan, Balchhad	Spikenard	<i>Nardostachys jatamansi</i> (D.Don) DC.	Valerianaceae	Rhizome	GoN_Pro_ban; CAMP_V; IUCN_V; CITES II	Press <i>et al.</i> 2000, GoN 2011, Sharma <i>et al.</i> 2004, Ghimire <i>et al.</i> 2008
36	Jewel Orchid	Bhringraj	Jewel Orchid	<i>Goodyera biflora</i> (Lindl.) Hook. f. <i>Dendriscocticta</i> sp., <i>Dolichousnea</i> sp., <i>Everniastrum</i> spp., <i>Hypotrachyna</i> spp., <i>Peltigera</i> spp., <i>Ramalina</i> spp.	Orchidaceae	Leaf		Devkota <i>et al.</i> , 2017
37	Jhyau		Lichens			Whole plant	GoN_Ban	

SN	Trade name	Local name	English name	Scientific name	Family	Traded part	Conservation status*	Documentation**
38	Jimbu		Nepal aromatic leaf garlic	<i>Allium przewalskianum</i> Regel	Amaryllidaceae	Aerial parts		Press <i>et al.</i> 2000
39	Jimbu		Nepal aromatic leaf garlic	<i>Allium stracheyi</i> Baker	Amaryllidaceae	Aerial parts		
40	Jimbu		Nepal aromatic leaf garlic	<i>Allium hypsistum</i> Stearn	Amaryllidaceae	Aerial parts	CAMP_V	Press <i>et al.</i> 2000
41	Kakadsinghi		Indian Mastiche	<i>Pistacia chinensis</i> subsp. <i>integerrima</i> (J.L. Stewart) Rech. fil.	Anacardiaceae	Insect gall	IUCN_R	Press <i>et al.</i> 2000, Sharma <i>et al.</i> 2004
42	Kakadsinghi		Indian Mastiche	<i>Pistacia khinjuk</i> Stocks ex Stocks	Anacardiaceae	Insect gall	IUCN_LC	Press <i>et al.</i> 2000
43	Kakoli	Ghane bish	Fritillary	<i>Fritillaria cirrhosa</i> D. Don	Liliaceae	Rhizome	CAMP_V	Press <i>et al.</i> 2000, Sharma <i>et al.</i> 2004
44	Kaladana	Gamdol		<i>Brachycorythis obcordata</i> (Lindl.) Summerh.	Orchidaceae	Rhizome	CITES II	Press <i>et al.</i> 2000, CITES 2013
45	Kalo Musli		Black musale	<i>Curculigo orchioides</i> Gaertn.	Hypoxidaceae		CAMP_V	Press <i>et al.</i> 2000, Sharma <i>et al.</i> 2004
46	Kaulo		Machilus	<i>Machilus odoratissima</i> Nees	Lauraceae	Bark		Anonymous 2011
47	Kaulo		Machilus	<i>Machilus duthiei</i> King ex Hook. fil.	Lauraceae	Bark		Anonymous 2011
48	Kutki, Katuki		Helbore	<i>Picrorhiza scrophulariiflora</i> Pennell	Scrophulariaceae	Rhizome	GoN; CAMP_V; IUCN_V	Press <i>et al.</i> 2000, GoN 2011, Sharma <i>et al.</i> 2004
49	Maikopila			<i>Saussurea gossypiphora</i> D. Don	Asteraceae	Seed		Press <i>et al.</i> 2000
50	Majitho		Madder	<i>Rubia manjith</i> Roxb. ex Fleming	Rubiaceae	Stem	CAMP_V	Press <i>et al.</i> 2000, Sharma <i>et al.</i> 2004
51	Nagbeli		Club moss	<i>Lycopodium clavatum</i> L.	Lycopodiaceae	Spores		Manandhar 2002
52	Nakkali Chiraito			<i>Swertia paniculata</i> Wall.	Gentiniaceae	Whole plant		
53	Nirmasi			<i>Delphinium denudatum</i> Wall.	Ranunculaceae	Rhizome		Press <i>et al.</i> 2000
54	Nirmasi			<i>Aconitum heterophyloides</i> (Brühl) Stapf	Ranunculaceae	Rhizome		Manandhar 2002
55	Nirmasi			<i>Aconitum orochryseum</i> Stapf	Ranunculaceae	Rhizome		Press <i>et al.</i> 2000
56	Orchid		orchid	<i>Dendrobium denudans</i> D. Don	Orchidaceae	Whole plant	CITES II	Press <i>et al.</i> 2000, CITES 2011
57	Orchid		orchid	<i>Dendrobium eriiiflorum</i> Griff.	Orchidaceae	Whole plant	CITES II	Press <i>et al.</i> 2000, CITES 2011
58	Orchid		orchid	<i>Dendrobium nobile</i> Lindl.	Orchidaceae	Whole plant	CITES II	Press <i>et al.</i> 2000, CITES 2011
59	Orchid		orchid	<i>Dendrobium transparens</i> Wall. ex Lindl.	Orchidaceae	Whole plant	CITES II	Press <i>et al.</i> 2000, CITES 2011

SN	Trade name	Local name	English name	Scientific name	Family	Traded part	Conservation status*	Documentation**
60	Padamchal, Amalbed, Chulthi		Rhubarb	<i>Rheum australe</i> D. Don	Polygonaceae	Petiole and rhizome	CAMP_V	Press <i>et al.</i> 2000, Sharma <i>et al.</i> 2004
61	Padamchal, Amalbed, Chulthi		Rhubarb	<i>Rheum moorcroftianum</i> Royle	Polygonaceae	Petiole and rhizome	CAMP_NT	Press <i>et al.</i> 2000
62	Pakhanved	Silfode, Bhiniti	Rockfoil	<i>Bergenia ciliata</i> (Haw.) Sternb.	Saxifragaceae	Rhizome	IUCN_T	Anonymous 2011, Sharma <i>et al.</i> 2004, Ghimire <i>et al.</i> 2008
63	Pakhanved	Silfode, Bhiniti	Rockfoil	<i>Bergenia purpurascens</i> (Hook.f. & Thomson) Engl.	Saxifragaceae	Rhizome		Flora of Nepal, 2012
64	Panchaale	Hatajadi		<i>Dactylorhiza hatagirea</i> (D. Don) Soo	Orchidaceae	Rhizome	GoN_Ban; CAMP_EN; CITES II	Press <i>et al.</i> 2000, CITES 2011, Sharma <i>et al.</i> 2004
65	Pangra		Elephant creeper	<i>Entada phaseoloides</i> (L.) Merr.	Fabaceae	Fruit	CAMP_V	Press <i>et al.</i> 2000, Sharma <i>et al.</i> 2004
66	Pipla		Long pepper	<i>Piper longum</i> L.	Piperaceae	Fruit		Press <i>et al.</i> 2000
67	Red Mushroom	Livelite chyaw	Red mushroom	<i>Ganoderma lucidum</i> (Curtis) P. Karst.	Ganodermataceae	Whole plant		
68	Rittha		Soapnut	<i>Sapindus mukorossi</i> Gaertn.	Sapindaceae	Fruit		Press <i>et al.</i> 2000
69	Rudrakshya		Utrasum bead tree	<i>Elaeocarpus angustifolius</i> Bl. Syn: <i>Elaeocarpus sphaericus</i> (Gaertn.) Sch.	Elaeocarpaceae	Seed	IUCN_V	Shrestha 1998, Sharma <i>et al.</i> 2004
70	Safed Museli			<i>Chlorophytum borivillianum</i> Santapau & R.R.Fern.	Liliaceae	Whole plant		Khanam <i>et al.</i> 2013
71	Satavari, Kurilo		Wild asparagus	<i>Asparagus racemosus</i> Willd.	Liliaceae	Tuber	CAMP_V	Press <i>et al.</i> 2000, Sharma <i>et al.</i> 2004
72	Satuwa		Love apple	<i>Paris polyphylla</i> Smith	Liliaceae	Rhizome	CAMP_V; IUCN_V	Press <i>et al.</i> 2000, Sharma <i>et al.</i> 2004
73	Satuwa			<i>Trillidium govanianum</i> (D. Don) Kunth	Liliaceae	Rhizome		Press <i>et al.</i> 2000
74	Setak chini		Green briers	<i>Smilax</i> sp.	Liliaceae	Rhizome		
75	Sikakai		Soap pod	<i>Senegalia rugata</i> (Lam.) Britton & Rose; Syn: <i>Acacia rugata</i> (Lam.) Voigt	Fabaceae	Pod		Press <i>et al.</i> 2000
76	Sugandhakokila			<i>Cinnamomum glaucescens</i> (Buch.-Ham. ex Nees) Hand.-Mazz.	Lauraceae	Fruit & seed	GoN_Pro_ban	Press <i>et al.</i> 2000, GoN 2011
77	Sugandhawal		Valerian	<i>Valeriana jatamansi</i> Jones	Valerianaceae	Rhizome	GoN_Pro_ban; CAMP_V	Press <i>et al.</i> 2000, GoN 2011, Sharma <i>et al.</i> 2004

SN	Trade name	Local name	English name	Scientific name	Family	Traded part	Conservation status*	Documentation**
78	Sunpati		Anthopogon	<i>Rhododendron anthopogon</i> D. Don	Ericaceae	Leaf		Press <i>et al.</i> 2000
79	Timur		Nepal pepper	<i>Zanthoxylum armatum</i> DC.	Rutaceae	Fruit		Press <i>et al.</i> 2000
80	Yarsagumba	Keera	Caterpillar fungus	<i>Ophiocordyceps sinensis</i> (Berk.) G.H.Sung, J.M.Sung, Hywel-Jones & Spatafora	Cordycepaceae	Whole plant		Winkler 2010
81	Yarsagumba (low altitude)			<i>Ophiocordyceps nepalensis</i> (M. Zang and Kinjo) Sung.	Cordycepaceae	Whole plant		Press <i>et al.</i> 2000

* CONSERVATION STATUS	
GoN_Pro_ban	Banned for export outside the country without processing by Government of Nepal
GoN_PC	Wild harvest and sale is allowed only after the taxonomic identification and confirmation of the species as <i>Neopicrorhiza scrophulariiflora</i> by DPR and then final approval of DoF after its inventory and identification of its total natural and harvestable stock in the wild.
GoN_Ban	Complete banned for collection, transportation and trade by Government of Nepal
CAMP_V	Assigned Vulnerable by CAMP (Conservation Assessment and Management Planning 2000)
CAMP_EN	Assigned endangered by CAMP
CAMP_DD	Assigned Data deficient by CAMP
IUCN_V	Assigned Vulnerable by IUCN
IUCN_R	Assigned Rare by IUCN
IUCN_T	Assigned Threatened by IUCN

DOCUMENTATION INTIALS**	FULL REFERENCE
Anonymous 2011	Anonymous, 2011. <i>Flora of Nepal Volume 3 (Special Nepali Edition)</i> . Royal Botanic Garden Edinburgh/CDB-TU/NAST/DPR
CITES 2013	CITES, 2013. <i>CITES Appendices I, II &amp; III</i> . CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES OF WILD FAUNA AND FLORA

Devkota et al 2017	Devkota, S., Chaudhary, R.P., Werth, S., Scheidegger, C. 2017. Trade and legislation: consequences for the conservation of lichens in Nepal Himalaya. Biodiversity Conservation. DOI 10.1007/s10531-017-1371-3
Ghimire et al 2008	Ghimire S.K., Sapkota I.B., Oli B.R. and Parajuli-Rai R., 2008. <i>Non Timber Forest Products of Nepal Himalaya: Database of Some Important Species Found in the Mountain Protected Areas and Surrounding Regions</i> . WWF Nepal, Kathmandu, Nepal.
GoN 2011	GoN, 2011. Gazette part 5 published on 10th Jan 2011.
Manandhar 2002	Manandhar N.P. 2002. <i>Plants and People of Nepal</i> . Timber Press, Portland, Oregon.
Press et al. 2000	Press J. R., Shrestha K. K. and Sutton D. A. 2000. <i>Annotated Checklist of the Flowering Plants of Nepal</i> . The Natural History Museum, London, UK.
Sharma et al 2004	Sharma U.R., Malla K. J. and Uprety R. K., 2004. Conservation and management efforts of medicinal and aromatic plants in Nepal. In: <i>Banko Jankari</i> 14(2): 3-11
Shrestha 1998	Shrestha K. 1998. <i>Dictionary of Nepalese Plant Names</i> . Mandala Book Point, Kathmandu, Nepal.
Shrestha & Joshi 1996	Shrestha T. B. and Joshi R. M., 1996. <i>Rare, Endemic and Endangered Plants of Nepal</i> . WWF Nepal Program, Kathmandu, Nepal
Khanam et al 2013	Khanam Z., Singh O., Singh R. and Bhat I., 2013. Safed musli ( <i>Chlorophytum borivillianum</i> ): A review of its botany, ethnopharmacology and phytochemistry. <i>Journal of Ethnopharmacology</i> 150: 421-441.
Winkler 2010	Winkler D., 2010. Caterpillar fungus ( <i>Ophiocordyceps sinensis</i> ) production and sustainability on the Tibetan Plateau and in the Himalayas. <i>Asian Med.</i> 5: 291–316.